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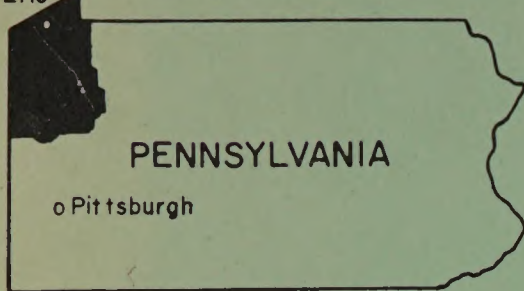
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CRAWFORD-ERIE-MERCER-VENANGO COUNTIES

Erie



Penn Soil

Resource Conservation and Development Project

project plan
Revised August 1971

Developed by

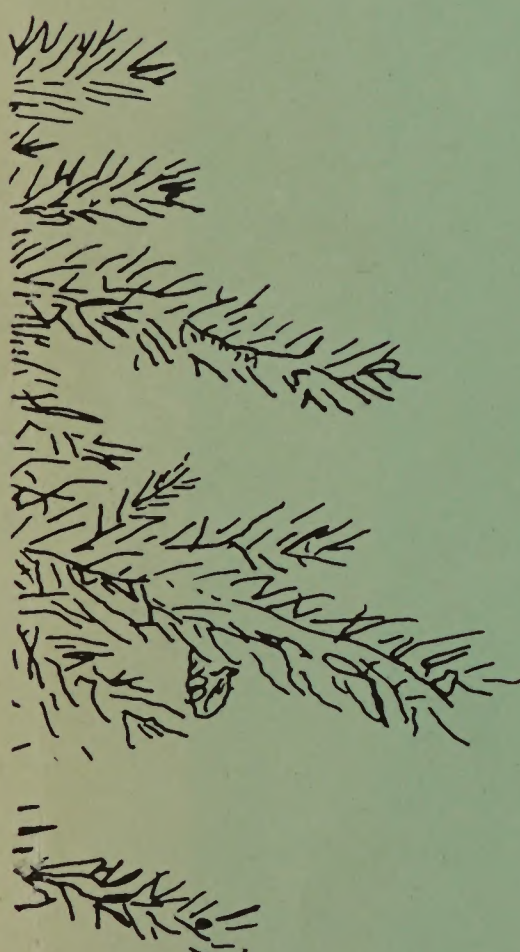
Project Sponsors

with assistance of

United States Department of Agriculture

and other

Federal, State, Local Agencies and Groups



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PENN SOIL RESOURCE CONSERVATION AND DEVELOPMENT
PROJECT PLAN

Prepared under Authority of the Food and Agriculture Act of 1962
US Congress (Public Law 87-703)

Developed by

Soil and Water Conservation Districts and Boards of County Commissioners
of Crawford, Erie, Mercer and Venango Counties

Cooperating With:

State of Pennsylvania

USDA and other Federal Agencies

Local Governments and Civic Organizations

~~607301~~

602089



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF FORESTS AND WATERS
HARRISBURG
17120

AS OF JANUARY 19, 1971
DEPARTMENT OF ENVIRONMENTAL RESOURCES
HARRISBURG
17120

August 24, 1971

Mr. R. M. Davis
State Conservationist
U. S. Soil Conservation Service
Box 985, Federal Square Station
Harrisburg, Pennsylvania 17108

Dear Mel:

As the designated review agency of the Governor of Pennsylvania, the State Soil and Water Conservation Commission endorses the revised Penn Soil Resource Conservation and Development Project Plan. The Pennsylvania State Clearing House has also reviewed and endorsed this revised plan and we concur in their actions.

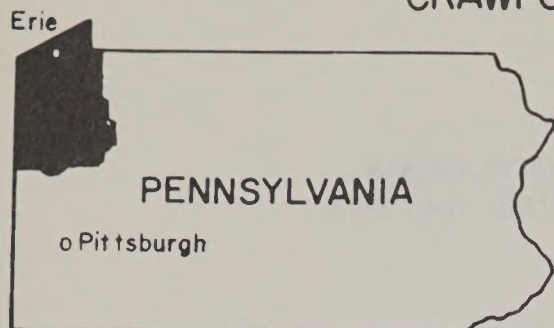
The local sponsors, as well as the local, state and federal agencies who participated in revising this plan, are to be complimented for their objectives for area improvement and for the time and effort devoted to the project.

Attaining the objectives set forth in this program will require the coordinated action of many interested individuals, units of government and agencies. The State Soil and Water Conservation Commission offers the project sponsors the full cooperation and assistance of its office in the implementation of this plan.

Sincerely yours,

A handwritten signature in dark ink, reading "Maurice K. Goddard".

Maurice K. Goddard, Chairman
State Soil and Water Conservation
Commission



Penn Soil

Resource Conservation and Development Project

To Citizens of The Penn Soil Project Area:

This plan is a revision of our original Penn Soil Resource Conservation and Development Project Plan which was completed in 1964. It has been revised to add Erie County to the project area and to bring up-to-date the project measures which have been added and deleted since 1964. In revising this plan, we have placed additional emphasis on the environmental projects within the RC&D area. Environmental Study Committees have been active in all four counties. They have instituted many broad projects aimed at protecting and improving our environment.

This is a rather unique broad resource plan. It is a product of hundreds of people from the four counties. Many local, state and federal agencies' representatives served as advisors and provided technical information needed for sound resource planning. It is an action plan. The installation of each project measure is a step forward in achieving our overall objectives.

The plan is flexible and open-ended. It provides a firm foundation upon which to build our future. Although much time has been spent on this plan, it is not intended to be complete. Projects to conserve, develop and utilize our resources can be added as the need arises. There are many measures that need additional study to determine their feasibility.

This plan is of little value unless we move ahead to complete the listed project measures. We, the project sponsors, realize this obligation and fully intend to provide continued leadership and support in implementing this plan.

The Executive Committee has asked that I convey their thanks for the support of all the people in this area in making this project a success. We have accomplished a lot for our area since the development of the original project plan in 1964. If we continue to work together, we can accomplish many more projects listed in our revised plan for the good of the area.

David J. Woods
Chairman, Executive Committee

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PROJECT PLAN HIGHLIGHTS

— Summary

SUMMARY

This plan is a revision of the original Penn Soil Plan prepared in 1964. The revision was made to add Erie County to the project area (approved in February, 1970) and to update and add project measures.

The Penn Soil Project Area now includes Crawford, Erie, Mercer and Venango Counties. These counties, located in the extreme northwest corner of Pennsylvania, comprise 2.04 million acres and constitute a part of the state's northwest planning region.

Penn Soil is an area with many varied characteristics. Forestry, dairying, oil and gas production, steel making, and fruit orchard enterprises predominate. It is a land of moderate topography, wet soils, extensive marshes, bogs, and lakes including Pennsylvania's largest - Lake Erie. It is both rural and urban in nature. Over 534,524 people live in the area. And yet, area wide, 40% of the population can be classified as rural, because over one-half the total population is concentrated in Erie County. Over 600 industrial firms are clustered around the cities of Erie and Sharon. And yet, just a stone's throw away is one of the best fruit and vegetable growing regions in the state. About 37% of the area is in cropland and pasture use, 49% is in woodland and 14% is in urban and urbanizing uses. Water is a major resource of the area. Over 658,000 acres of lakes and reservoirs and almost 500 miles of streams are available for industrial, municipal, and recreational uses.

The project is sponsored and administered by the Boards of County Commissioners and the Soil and Water Conservation Districts of the four counties. Under the leadership of the Sponsors' Executive Council nearly 300 local citizens have been organized into study groups to analyze the area's resource problems and opportunities. Proposals aimed at improving or protecting the resource base were developed by the study committees and submitted to the executive council for review. If the proposals were in keeping with the project objectives they were adopted as project measures and included as part of this plan. Many federal, state, and local agencies assisted both the study groups and the executive council in this evaluation process.

The 1964 plan included 87 project measures. Since then, the sponsors have added 125 measures. The revised plan includes all 212 measures. Of this total, 57 measures are in the planning stage, 92 are in operation, 33 are completed and 29 have been cancelled.

Historically, the economy of the area was closely tied to the family farm. In recent times, however, the family farm has declined in economic importance until it now employs less than 4% of the total work force. Low farm income has been the primary reason for this decline. Contributing factors include unfavorable soil conditions, short growing season, insufficient resources, competition for prime agricultural land, lack of young people who are interested in farming and other related problems. Income from woodlands is also well below its potential because of similar problems with management and marketing.

Opportunities for improving farm and woodland income include making adjustments in farm size and type of enterprises, developing those farms that have the potential for recreational opportunities in conjunction with the farm or woodlot, and accelerated programs for improving operator technical skills. Expanded use of existing state and federal programs will help bring about these changes.

Abundant water resources have played a significant role in the development of the region, but not without problems. Poor water quality resulting from pollution, flooding and contamination of the ground water table are presently limiting the use of this important resource. Pennsylvania's new Clean Streams Law, acceleration of PL 566 projects, flood plain zoning, and public educational programs on water quality are but a few of the opportunities available for improving the quality and quantity of this important resource.

Project sponsors want to make their region a better place to live, work and play. In an effort to attain these goals, opportunities must be supplied for good recreation and fish and wildlife habitat. Existing opportunities will have to be improved and new ones established. Scenic beauty and general attractiveness are considerations in all improvements.

Improved development and use of resources may be accomplished by the use of such items as inventory and appraisal of recreational potentials, distribution of vacation brochures and planning for full development of water resources.

Literally hundreds of small communities are scattered throughout the area. Historically, these communities were trade and agricultural centers. With few exceptions they have not kept pace with the changing nature of their region. In order to grow, these communities must now adjust to new roles in area development. These adjustments may include central water and sewage facilities, sound land use planning, expanded schools, updated housing, pollution control, and greater community neatness and civic pride.

By taking full advantage of existing federal and state programs and by completing and implementing both community and regional land use plans local citizens believe they can meet this challenge. Already many communities are improving their appearance, their sanitation facilities, and are attracting new industry to employ their citizens.

In light of these problems, the sponsors have adopted objectives which will guide local citizens and others towards improving the quality of their environment. To reach their goal specific objectives were selected to increase farm incomes, to promote multiple resource use, to develop and improve the quantity and quality of the water resources, and to provide more opportunities for recreation, fish and wildlife development.

The sponsors now have 7 years of experience behind them in carrying out an RC&D project. During this time they have demonstrated that the concept of helping people help themselves truly does work. To date,

33 of the adopted project measures have been completed. These completed measures represent an estimated expenditure of 33.1 million dollars and have added 907 annual man years of employment. Another 92 project measures are in the process of installation. These measures, when complete, will represent an estimated expenditure of 152 million dollars and will add 3879 annual man years of employment.



Critical Area Planting - Strip
Mine Spoil



Tamarack Lake - for fishing

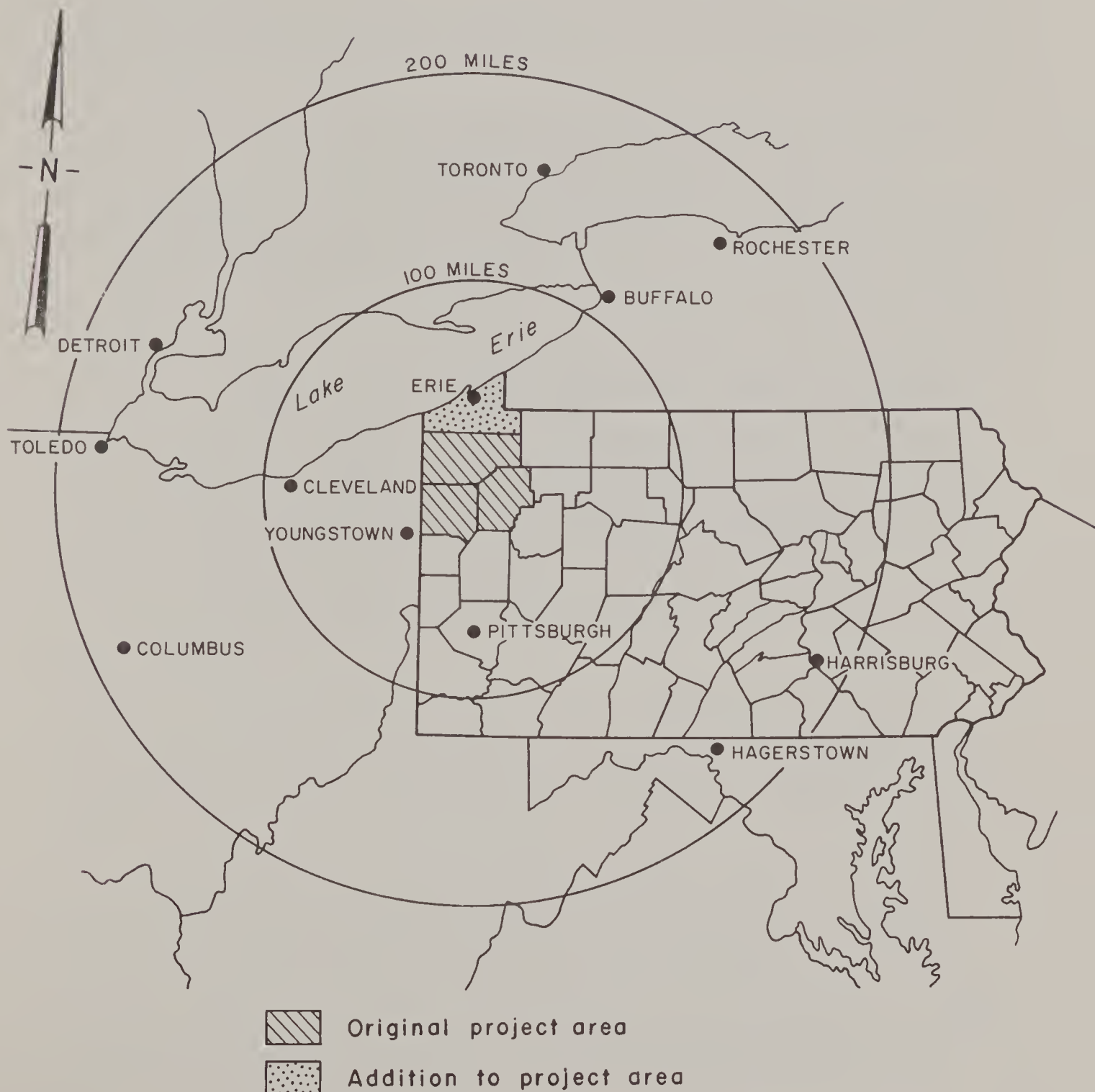
Completed project measures such as these have helped to improve the quality of the environment within the project area.

PROJECT AREA BACKGROUND

- Location Map
- Location and Size
- Physical Data
- Economic Data

LOCATION MAP

PENN SOIL R C & D PROJECT



LOCATION AND SIZE

The Penn Soil RC&D Project is located in the extreme northwestern corner of Pennsylvania. The project area includes the four Pennsylvania counties of Crawford, Erie, Mercer and Venango. To the north the area is bordered by Lake Erie and the state of New York; to the west by the state of Ohio; to the south by the Pennsylvania Counties of Lawrence, Butler and Clarion; and to the east by Forest and Warren Counties. Refer to the Project Location Map.

The Penn Soil Project Area encompasses 3,184 square miles (2.04 million acres) and is roughly rectangular in shape. It averages 46 miles in width (east to west) and 70 miles in length (north to south). Approximately 7.6 percent of the total land area of Pennsylvania is included within the boundaries of this project.

Crawford County contains 650,240 acres, Erie County 519,680 acres, Mercer County 435,840 acres and Venango County 432,000 acres.

PHYSICAL DATA

Topography

Except for the five to seven mile wide uniformly sloping lake plain which parallels Lake Erie, the area is located in the gently rolling, stream-dissected Allegheny Plateau. Relief is more rugged in the eastern portion of the area in the vicinity of the Allegheny River. Elevations in the plateau region generally range between 1,000 and 2,000 feet above sea level.

Repeated glacial action strongly altered the topography by smoothing off the hills, creating vast areas of wet soils and extensive swamps, marshes and lakes.

The most significant physical features of the area are the bodies of water. These include the Allegheny River in the southeast, the Shenango River on the west, Pennsylvania's largest inland body of water, Pymatuning, in the west and Lake Erie on the north. Both of these rivers and Lake Erie have played important roles in the early history and development of the area.

Climate

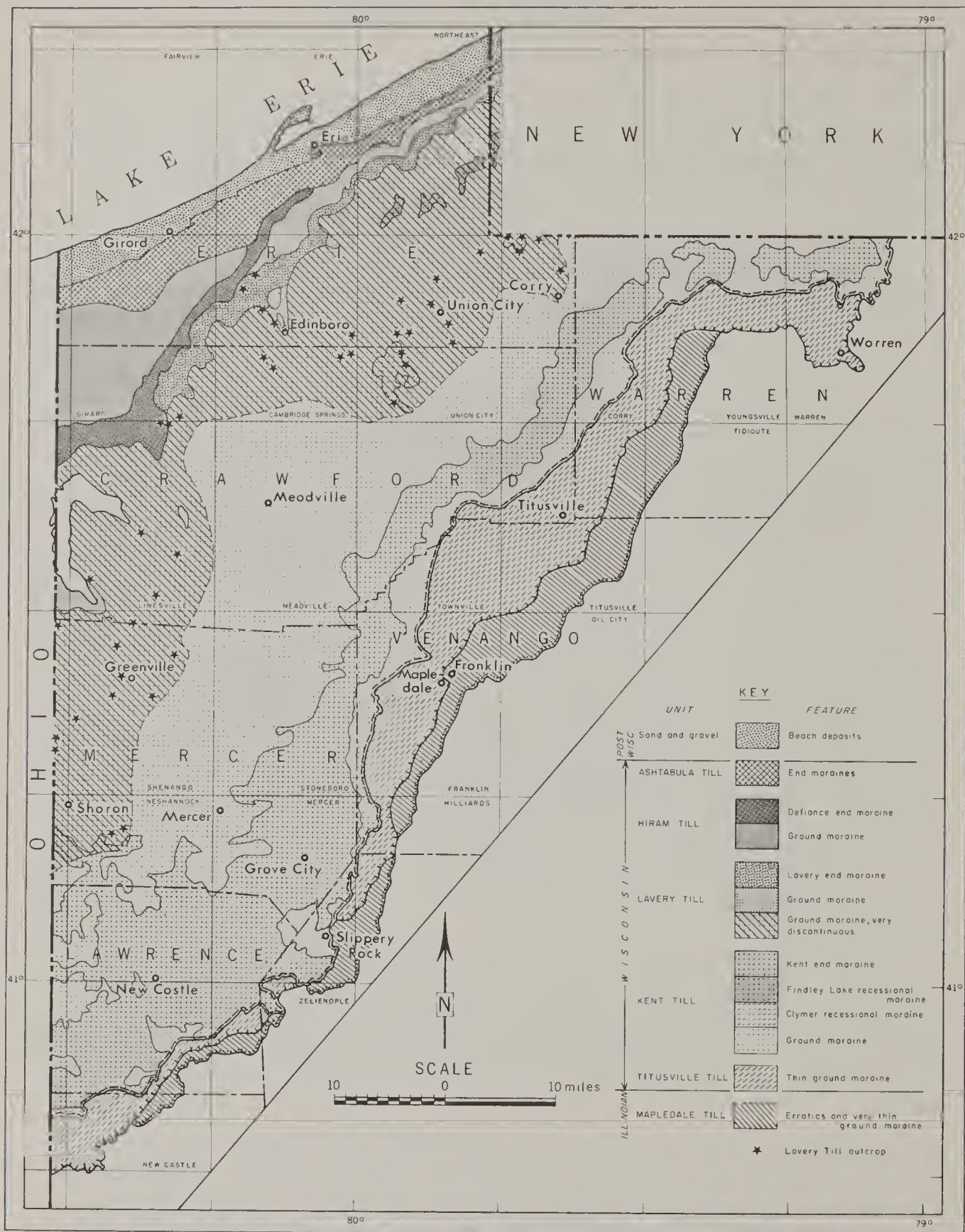
Climatic conditions vary considerably across the area. The mean maximum temperature in July ranges from 80 to 86 degrees Fahrenheit while the mean minimum temperature in January ranges from 18 to 22 degrees Fahrenheit. Average annual precipitation across the area ranges from 36 to 46 inches. Rainfall in excess of four inches in 24 hours is a rare occurrence. The average growing season ranges from 194 days on the lake plain to 119 days in higher elevations. Freezing temperatures occur approximately 100 days annually, and unmelted snowfall averages 60 inches.

General Geology

The land surface of this four-county area strongly reflects the influence of the last glaciation. The lake plain along Lake Erie gives way southward to an escarpment topped by a rolling upland. The details of the upland surface reflect modifications impressed upon the countryside by repeated visits of a continental ice sheet in past ages.

The surface of the lake plain is extremely flat except for abrupt rises up onto former beaches created by higher levels of Lake Erie. The largest portion of the land surface in the Penn Soil Resource Conservation and Development Area lies in the upland plateau which is a continuation of the glaciated section of the Appalachian Plateau Province. The upland surface is relatively smooth and gently rolling. The overall topography is that of an eroded plateau which has been in part masked and modified by glacial erosion and deposition.

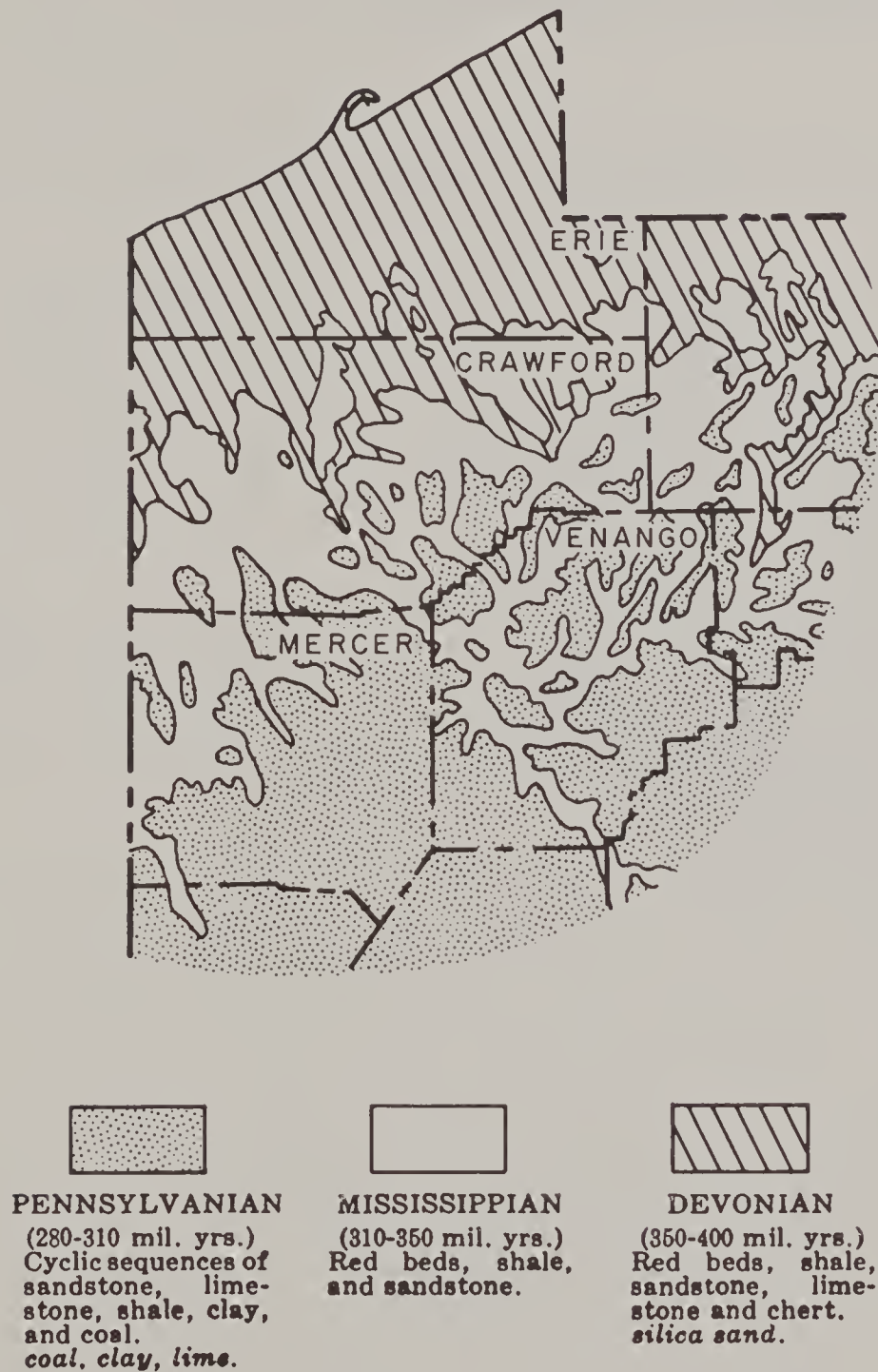
Figure 1



Distribution of glacial drift in northwestern Pennsylvania (modified from Figure 4 of Bulletin G 32, Shepps and others, 1959).

Figure 2

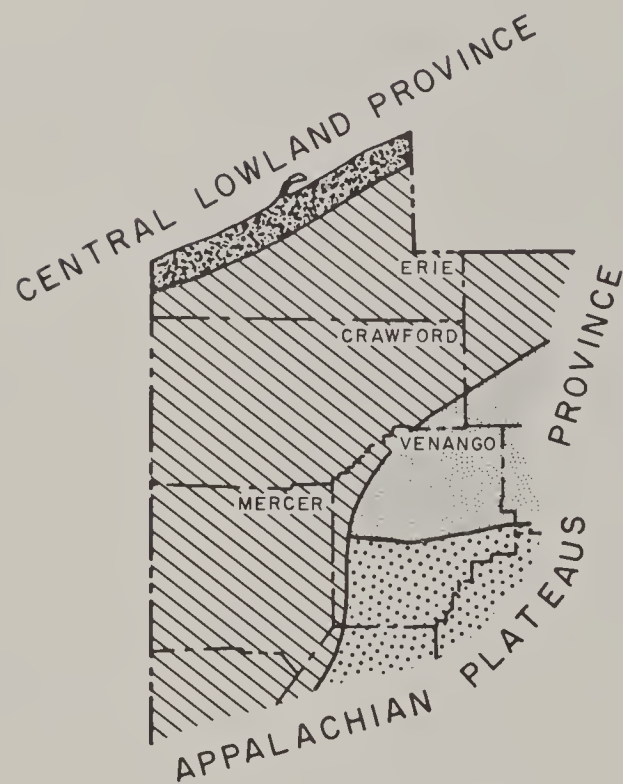
BEDROCK GEOLOGIC MAP



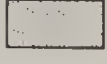



Source: Pa. Topo and Geologic Survey

Figure 3

PHYSIOGRAPHIC PROVINCES



-  Eastern Lake Section
-  Glaciated Section
-  Allegheny High Plateaus Section
-  Pittsburgh Plateaus Section

Source: Pa. Topo and Geologic Survey

The glacial legacy bestowed upon this area by the ice exists most notably in the presence of Lake Erie and that of the glacial deposits covering the bedrock. The glacial deposits contribute not only mineral resources but also water and a foundation for new, more fertile soils.

The rocks exposed below the glacial deposits consist of alternating beds of gray shale and thin layers of fine, gray sandstone, all of which are horizontal or dip slightly southeast. Some of these same rock formations become the oil and gas-bearing units at depth.

Mineral Resources

The mineral industry in this four-county area has been extremely vital to the economy. The continued and expanded development will aid in the industrialization and economic stability of the area.

Sand and Gravel - The production of sand and gravel has increased in total tonnage and total value. This valuable construction material is used for building, paving, fill, industrial sand in making glass, molding industry, grinding, polishing, abrasives, chemical industry, filler, porcelain and tile. Without this mineral resource being close at hand the construction carried on in this region of the state would be considerably more expensive.

Stone - Production from all types of stone in this four-county region increased over the last few years in total tonnage and total value. Much of the stone produced was used for aggregate, agricultural purposes, railroad ballast, riprap, and refractory. Stone production, vital to the growth of any area, large or small, may expect to have a strong and steady rise in this area.

Oil and Gas - These industries in this four-county area were highlighted by a number of recent significant developments. In Venango County excellent primary development oil well completions were reported from the Venango second sandstone. These well completions attest to the potential of significant reserves yet to be recovered from old oil fields.

An increasing volume of corning-grade crude oil, totaling about 1,000 barrels since July, 1965, is being produced in association with gas from the Medina Sandstones of Crawford and Erie Counties. The potential of this is largely unevaluated but appears to be very promising.

A recent geological evaluation of the Pierce Field, Erie County, indicates gas production is derived from a northward trending belt of reservoir sandstones. Similar trapped gas accumulations can be expected to occur in the many tested areas that exist between current fields on this reservoir trend. Other horizons, although not evaluated to date, offer potential for the future discovery of new gas reserves in the area.

There are three active natural gas storage projects in this region. The completion of pipelines carrying western gas to the eastern states, the depletion of our own reserves, and the great market demand for natural gas along the eastern seaboard has stepped up the development of natural gas storage pools in Pennsylvania. In western Pennsylvania, geological conditions are favorable for the economical storage of natural gas in porous rocks, and more storage pools are needed. Today, Pennsylvania is the first ranking state in all phases of gas storage.

Coal - Bituminous production in this four-county area continued through 1968 at a somewhat slower pace than 1967. Coal production in Mercer and Venango Counties is by strip mining. At the present time no subsurface or underground mines are being operated. During 1968 approximately 629,000 tons of bituminous coal were produced in these two counties.

Peat - Erie and Mercer Counties are among seven Pennsylvania counties reporting a total peat production of 38,400 tons in 1968. These two counties combined rank high in the production of Pennsylvania peat. Most of the peat produced was sold in bulk for general soil improvement. Over the last few years the market for Pennsylvania peat has increased steadily, and the outlook appears to be very bright for this mineral resource.

Salt - Certain rocks underlying the Penn Soil Resource Conservation and Development Area contain thick beds of salt (sodium chloride) that are potentially of economic importance. In northwestern Erie County certain salt beds reach a thickness of 80 feet and lie at a depth of less than 3,000 feet. Other salt beds obtain their greatest thickness in central Mercer and possible southwestern Crawford Counties. These salt beds are approximately 3,800 feet deep in Crawford County and 4,600 feet deep in Mercer County.

Many areas in this part of Pennsylvania contain salt beds of sufficient thickness and sodium chloride content to sustain a large salt-producing industry. The salt beds are usually found at considerable depths, but most of the salt could be successfully extracted by artificial brining techniques.

Brines - Since colonial times there has been an interest in the brines of northwestern Pennsylvania. Today brine is processed in some states not only for its major salts, the chlorides of sodium, calcium, and magnesium, but also for such minor constituents as bromide and iodide. The brines associated with the oil and gas-bearing rocks of this region are a potentially important natural resource.

Environmental Geology

It is important to know the composition and character of the glacial drift that covers most of this four-county area. The thickness of

this glacial material ranges from a few inches to several hundred feet, but generally is from 20 to 80 feet. The unconsolidated glacial material below the surface is different in composition, hardness and water content from that at the surface, and excavations for highways and large structures must take these variations into account in preliminary planning, in excavation programming and in slope specifications.

The costs of foundation construction are directly related to the strength of the rocks, relative saturation by groundwater, weathering characteristics of the rocks and other geologic criteria.

Those concerned with environmental problems related to on-lot sewage disposal systems and solid waste disposal planning should know that the unconsolidated materials below the surface are often quite different from those at the surface and, therefore, may accept liquids for disposal at different rates. The rate may be greater or lesser and, thus, be more or less favorable than that of the surface material.

Interest in subsurface liquid disposal of pollutant and industrial wastes has recently expanded in Pennsylvania as it has elsewhere in and around major industrial areas and population centers. The subsurface of western Pennsylvania is beginning to receive considerable attention by many industries because of the underground reservoirs available. Considerable study and caution must be exercised before using these subsurface reservoirs for liquid waste disposal purposes. A current geological evaluation (of the feasibility and advisability) of subsurface liquid waste disposal in Pennsylvania is in progress by the U. S. Geological Survey.

The stability of slopes cut in the rocks for highways and other engineering structures is a very important element in considering feasibility, safety and economics of the project. Rock lithology, structure of the rock mass, degree and kind of rock weathering, volumes and directions of water flow in rock and other geological factors all contribute to the development of a stable or unstable rock mass on a slope.

The location of deep and surface mines is important to those concerned with surface and subsurface construction, pollution abatement, and the protection of the surface and groundwater resources. It is particularly essential to know the types of mined minerals, the spoil rock stored at mine sites, the quality of water in strip pits, the possibility of strip pit leakage to surface and groundwater reservoirs, and the subsidence potential of the areas above subsurface mine workings.

The full utilization of mineral resources should be considered in developing the region's economy. Quantity, quality and availability of local industrial mineral deposits should be considered by each community as part of their planning policy regarding growth and development. The extraction of construction materials has a definite effect on a community's appearance, engineering projects and the economics of each local project. Mineral construction materials can be harvested and then the land can be made available for construction sites, recreational areas or many other uses. The answer to the land shortage today is multiple use.

Soils

There are three physiographic areas in the Penn Soil Project Area - the Eastern Lake Section, the Glaciated Appalachian Plateau Section and the Allegheny Plateau Section. The soils in each area have their own distinct properties.

The Eastern Lake Section occurs in a 5 to 7 mile wide band along Lake Erie. The soils have formed from materials deposited in lake bottoms and outwash stream deposits. The soils of the lake deposits are deep, well to poorly drained and have fine sandy loam, silt loam and clayey textures. The soils formed from the outwash stream deposits are deep, dominantly well drained and have sandy textures containing variable amounts of gravel. The area is well adapted to fruit and vegetable production because of the relatively long frost-free period. High water tables and droughtiness are the dominant use limitations.

The Glaciated Appalachian Plateau Section includes Crawford and Mercer Counties and portions of Erie and Venango Counties. The soils in the area are formed in glacial till deposits. The soils are deep, well to poorly drained and have loamy to silty textures. A high percentage of the soils have seasonal high water tables. Inadequate soil drainage is the major use problem of the soils in this section. Included in this section are small areas of deep, well drained soils which are formed in gravelly sandy glacial deposits. These soils have few use limitations.

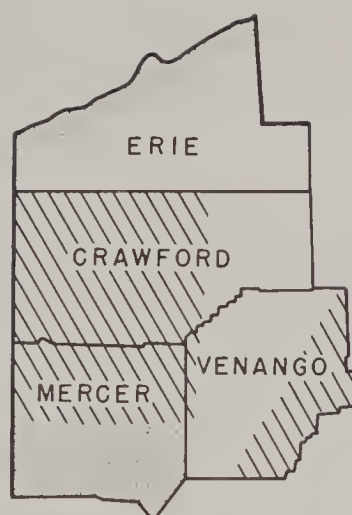
The Allegheny Plateau Section includes most of Venango County. The soils are formed in residuum from the weathered bedrock which is mainly shale and sandstone. The soils are moderately deep to deep, well to poorly drained and have sandy, silty to clayey textures. A high percentage of the soils are stony and steep. The major soil limitations for use are shallowness to bedrock, drainage, steep slopes and stoniness.

Detailed soil surveys for most of the Penn Soil RC&D have been completed. The detailed soil survey information can be obtained from the Soil Conservation Service offices located in the counties. Refer to the General Soil Map and descriptions following this section for more generalized information about the soils of the area.

Groundwater

Current and previous groundwater studies within this four-county region have thoroughly evaluated the groundwater resources. See Figure 4.

A general study of the groundwater available in northwestern Pennsylvania has been published. This work includes a description of a few important wells and the expected sources of water in each county. In addition, a map of the valleys in northwestern Pennsylvania which have been filled by glacial deposits is furnished. A short report on the groundwater available along the Lake Erie shore region was also published in 1952 by the U. S. Geological Survey.



Large supplies of groundwater are to be found in the buried valleys and in existing valleys which contain a fill of outwash, kame material and, in some cases, lake deposits. Yields of 300 to 700 gallons per minute can often be obtained from the valley-fill or buried valley deposits with a properly located and installed well.

Domestic supplies of water (3 to 5 gallons per minute) are encountered in most wells penetrating glacial material. Wells in till derive water from sands and gravels interbedded in the till or from coarse material at the till-bedrock contact. Till, as such, is generally impermeable and yields very little water except for domestic supplies.

Yields of more than 1,000 gallons per minute are obtained from wells tapping the Burgoon Sandstone at Grove City. In general, this formation is an excellent aquifer throughout the area of its occurrence.

Yields of 200 and 300 gallons per minute are reported from wells tapping the Clarion and Connoquenessing Formations. Both of these rock units are good to excellent aquifers.

During the past year the Bureau of Topographic and Geologic Survey has initiated a project to transfer data from water well driller's completion reports to a computer. To date, much of this information has

been keypunched, and print-out sheets are available from the bureau's Harrisburg office. Thus, it is possible for any designated area to get an immediate print-out which lists specific hydrogeologic information such as major and minor aquifers, yield of each aquifer, and zones within an aquifer, as well as a complete mechanical description of each well and quality of water encountered in the well.

Surface Water

Water areas which are more than two acres in size but less than forty acres comprise 0.5% of the total land area. Water areas larger than forty acres, such as Pymatuning Reservoir, Shenango Reservoir, the Allegheny River and French Creek are not included as part of the total land area. These water areas (over forty acres in size) comprise 26,400 acres and bring the total water areas within the project area to 36,031 acres. This figure does not include Lake Erie.

Water is one of the most scenic and abundant resources within the area. Two rivers, the Allegheny on the east and the Shenango on the west, drain the area. Hundreds of creeks and streams traverse the region, and many lakes and dams dot the landscape. Soil conditions and topography are very favorable for water impoundment throughout much of the area. Recent studies have pinpointed the locations of 220 sites for water impoundments of fifty surface acres or more in size. Refer to the Water Resource Map following this section.

Under the provisions of the Watershed Protection and Flood Prevention Act (PL-566) local citizens in Mercer, Crawford and Venango Counties have requested technical assistance for flood control in eight watersheds. (Two proved to be unfeasible.) Flood control structures have been completed in three of these. (See Table 1.) The U. S. Army Corps of Engineers have completed the Shenango Reservoir flood control project, and construction is underway on Muddy and Woodcock Creeks in Crawford County and on French Creek at Union City in Erie County. Approximately 20%, or 230 miles, of the area's streams are polluted to a point where their use for water supply or recreation is impractical.

Land Use

Project Area Land Use (1968) is listed in Table 2 and illustrated on the generalized Land Use Map following this section.

Open farmland (cropland, pastureland, and other land in farms such as farmsteads, roads and idle areas) and woodland account for 85.3% of the present land use. Land used for community-serving purposes (rural, nonfarmland and urban land) account for 14.2%.

A comparison of land use trends 1958-68 is shown in Figure 5. During this period open farmland declined by 201,729 acres. Pasture and other farmland comprised the largest portion of this decrease, 155,482 acres. Most of the land going out of open farmland went into woodland which has increased comparatively.

TABLE 1 WATERSHED PROTECTION AND FLOOD PREVENTION

Watershed	Acres	Stage	No. Structures Planned		No. Structures Completed		Struct. Measures		Average Annual Benefits
			Single Purpose	Multiple Purpose	Single Purpose	Multiple Purpose	Estimated Cost (1964)		
Wolf Creek	36,000	A	-	-	-	-	- <u>1</u> /	- <u>1</u> /	- <u>1</u> /
Little Shenango R.	72,738	O	5	1	1	-	\$1,621,479		\$101,709
Oil Creek	112,000	O	6	-	-	-	2,687,770		209,090
Sandy Creek	42,000	C	1	1	1	1	928,143	<u>2</u> /	23,760
Mill Run	7,814	C	1	1	1	1	958,203	<u>2</u> /	21,295
Saul-Mathay Creek	3,940	C	2	-	2	-	291,043	<u>2</u> /	12,601
Project Area Total	274,492		15	3	5	2	\$6,486,638		\$368,455

A - Application O - Operations C - Completed

1/ Estimated costs and benefits not available at this time.2/ Actual installation costs excluding land rights.

Unfeasible watersheds were Neshannock Creek and Little Sandy Creek.

TABLE 2 1/

Land Use 1968

<u>Use</u>	<u>Area (Acres)</u>	<u>Percent</u>
Open Farmland	744,371	36.5
Woodland	993,832	48.8
Rural Nonfarmland	155,035	7.6
Urban land	134,891	6.6
Water Areas (which are a part of the land area)	<u>9,631</u>	<u>0.5</u>
TOTAL	2,037,760	100.0

1/ Source: 1968 C.N.I.

A smaller portion has gone into urbanizing uses. Rural, nonfarmland has declined at about the same rate as pasture. Some of this land has reverted to woodland, but the majority has gone into urbanizing uses or water areas. These trends are likely to continue in the future unless definite actions are taken to reverse the trends.

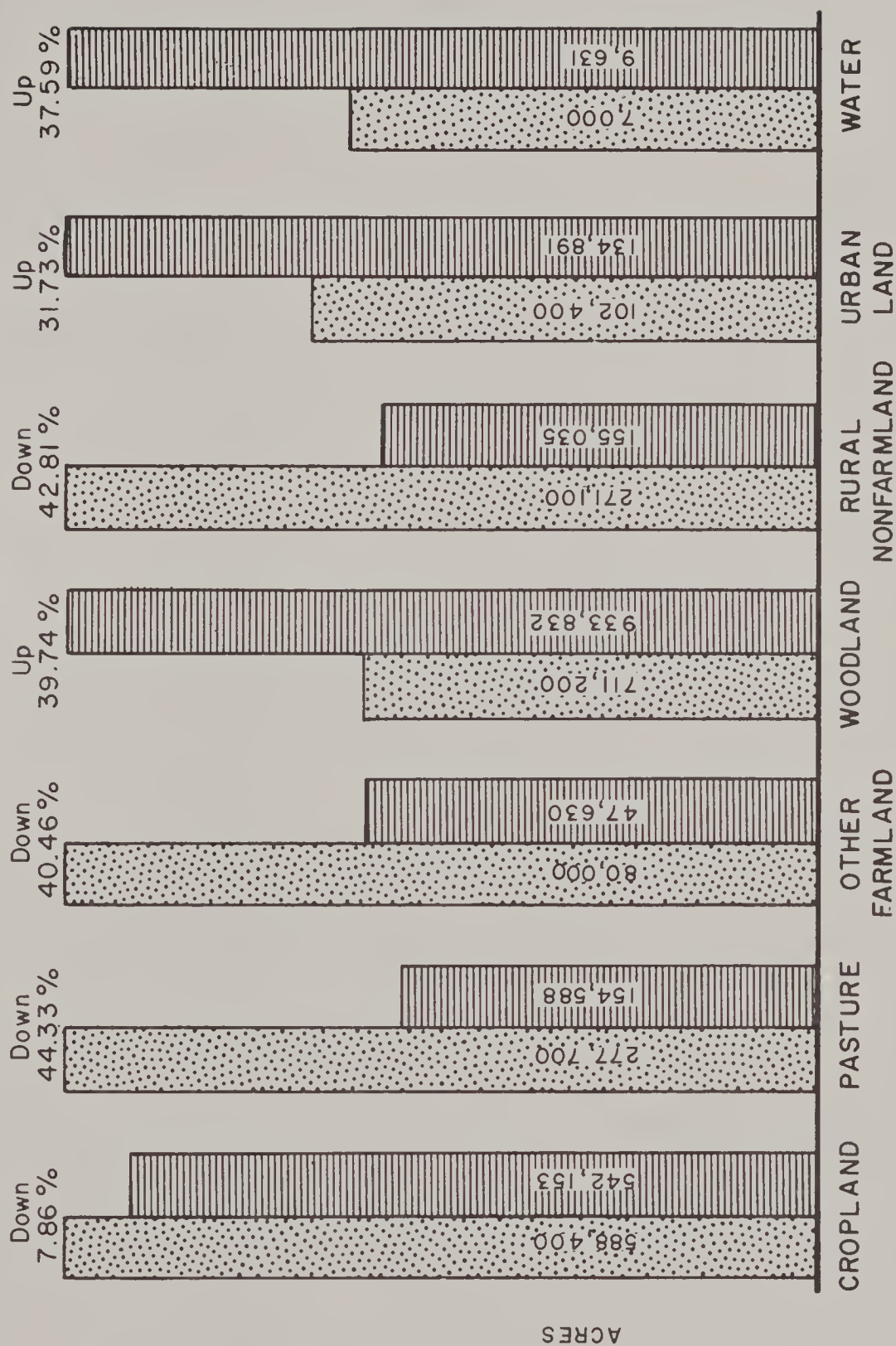
The open farmland is fairly uniformly scattered throughout the project area. Approximately 7,000 individual parcels averaging 110 acres in size make up this land use category. Except for the fruit and vegetable production along Lake Erie, most of the cropland is devoted to the production of silage corn, small grain and grass and legume hay. Slightly more than 64% of the cropland is in land capability Class III and has problems of wetness. According to the 1968 Conservation Needs Inventory 62% of the cropland needs additional conservation treatment.

Most of the existing pasture is in native grasses. Approximately 82% of the pasture is in land capability Classes III and IV with wetness being the major problem. Fifty-four percent of the pasture needs improvement and brush control.

Although almost 49% of the project area is wooded, the woodland tracts are relatively small in size and fairly uniformly scattered throughout the area. Venango County, however, has proportionally more woodland and larger tracts than the other counties.

According to the "Timber Resources of Pennsylvania," U. S. Forest Service Resources Bulletin, NE-8, 1968, 44% of the wooded acreage is classified as saw timber, 23.6% as pole timber and 32.4% as other stands. About 9% of the growing stock volume is classified as softwood, and 91% as hardwood. Of the hardwoods, red and black oaks, sugar and red maple, black cherry and yellow poplar are the dominate species.

FIGURE 5
LAND USE COMPARISON
 Penn Soil Project Area
 1958 - 1968



1958 1968

The rural nonfarmland and urban land comprise 13.2% of the total land area. Rural nonfarmland includes roads, airports, rural houses, railroads, schools, other buildings, idle nonfarmland and surface mined areas. Urban land includes cities, villages and built-up areas of more than 10 acres in size. Erie County has proportionally more land, 129,318 acres, in these uses than the other three counties. Venango County has the least amount, 26,650 acres.

Highways, roads, airports and railroads use about 1/3 (55,000 acres) of the total amount of rural nonfarmland. Within the area are 7,940 miles of highways and roads, 41 airports (15 of which are commercial and 26 private), and four major railroad lines. Major highways include Interstate Routes 79, 80, and 90 and U. S. Routes 6, 19, 322, and 62.

Recent surface mined areas account for at least 7,773 acres of the rural nonfarmland. (The older strip mined areas which have been revegetated in trees are classified as woodland.) Most of the surface mined areas in Mercer and Venango Counties are coal strip mines; in Erie and Crawford Counties they are mostly sand and gravel quarries.

Major urban areas with populations of 10,000 or more within the project include Erie, Sharon, Farrell, Meadville, Franklin, and Oil City.

Recreation, Fish, and Wildlife

A large portion of the land and water resources of the project area has a primary or secondary use for outdoor recreational activities. Current estimates indicate that recreation may well be a 20-30 million dollar a year business within the project.

In 1967 there were a total of 118,342 acres of public recreation lands within the project area. These lands, summarized in Table 3, include national, state, county, and community-owned land used for parks, forests, game, water access, roadside rests and historical sites. The Recreation Map, following this section, shows the location of these lands.

The area has 48.6 acres of state park lands per 1,000 people. This ratio far exceeds both the current state average of 15 acres per 1,000 people and the state's goal of 25 acres per 1,000 people. Generally, local citizens view this public open space as the nucleus of its tourist trade.

Private outdoor recreational developments have increased considerably during the last 10 years. These developments both complement and supplement the publicly owned facilities. Private developments use significant amounts of land and water, but no attempt has been made to tabulate acreages for this plan. Most popular types of private facilities include cabins and cottages, camping grounds, and picnic areas.

TABLE 3
PUBLIC RECREATION LANDS

<u>Type</u>	<u>Number</u>	<u>Land (Acres)</u>
A. Federal Lands	2	19,580
B. State Lands		
1. Parks	3	25,412
2. Game lands	31	54,265
3. Forests	1	12,222
4. Fish access areas	22	1,823
5. Roadside rests	9	45
6. Historical sites	6	-- <u>1/</u>
C. Major County and Local	<u>25</u>	<u>4,980</u>
TOTAL	95	118,342

1/ Not available

The fish and wildlife resources are important assets to the recreational environment of the project area. Both fishing and hunting are popular forms of outdoor recreation with approximately 20% of the local people participating in these sports annually. According to national averages, area hunters and fishermen spent 7.5 million dollars annually in the pursuit of these sports.

Some 499 miles of streams and 658,670 acres (including Lake Erie) of the lakes and reservoirs are stocked with fish and open for public fishing. See Table 4, Summary of Public Fishing Waters. Common species include trout, largemouth and smallmouth bass, channel catfish, muskellunge, suckers, walleyes, bullhead, fallfish, pickerel, yellow perch, bluegills, crappie, carp and Coho salmon (in Lake Erie). Stream and lake pollution have decreased the amount of waters available for fishing during the last 20 years by 30 percent.

A wide variety of wildlife abounds within the project area. Major species include bear, deer, turkey, geese, ducks, grouse, pheasants, woodcock, squirrel, rabbits and woodchucks. Migratory waterfowl including woodcock are the most abundant species present. A summary of the relative abundance and management potential is given in Table 5.

TABLE 4
SUMMARY OF PUBLIC FISHING WATERS

Type Water	Cold Water Species		Warm Water Species		Warm & Cold Water Species		Total	
	No.	Miles Acres	No.	Miles Acres	No.	Miles Acres	No.	Miles Acres
STREAMS	29	160 mi.	10	191 mi.	13	148 mi.	52	499 mi.
LAKES	-	-	12	18,610 acres	2	640,060 acres	14	658,670 acres

TABLE 5
INVENTORY OF GAME SPECIES

<u>Species</u>	<u>Abundance</u>	<u>Management Potential</u>	<u>Primary Range Zones</u>
Deer	Moderate to high	Good	Venango, Crawford
Turkey	Low	Fair	Venango
Bear	Low	Fair	Venango
Woodcock	High to moderate	Excellent	All counties
Ruffed Grouse	Low to moderate	Good	Venango, Crawford
Pheasants	Moderate to high	Good	Erie, Mercer, Crawford
Rabbits	Moderate	Good	All counties
Squirrel (gray and fox)	Moderate to high	Good	Mercer, Venango
Migratory waterfowl	High to low	Excellent	Crawford, Erie, Mercer
Woodchuck	Low to high	Good	All counties

ECONOMIC DATA

Population

In 1970 the population ^{1/} of the project area was 534,524. This figure represents almost 5% of the total population of Pennsylvania. See Table 6. From 1930 to 1970 the growth rate of the area exceeded that of the state as a whole. See Figure 6. Projections to 1980 ^{2/} indicate that the population of the project area will probably continue to grow at a faster rate than in the immediate past.

TABLE 6

POPULATION OF PROJECT AREA

<u>County</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>
Crawford	62,980	71,644	78,948	77,956	81,342	76,916
Erie	175,277	180,889	219,388	250,682	263,654	346,114
Mercer	99,246	101,039	111,954	127,519	127,175	169,008
Venango	<u>63,226</u>	<u>63,958</u>	<u>65,328</u>	<u>65,295</u>	<u>62,353</u>	<u>64,449</u>
TOTAL	400,729	417,530	475,618	521,452	534,524	656,487

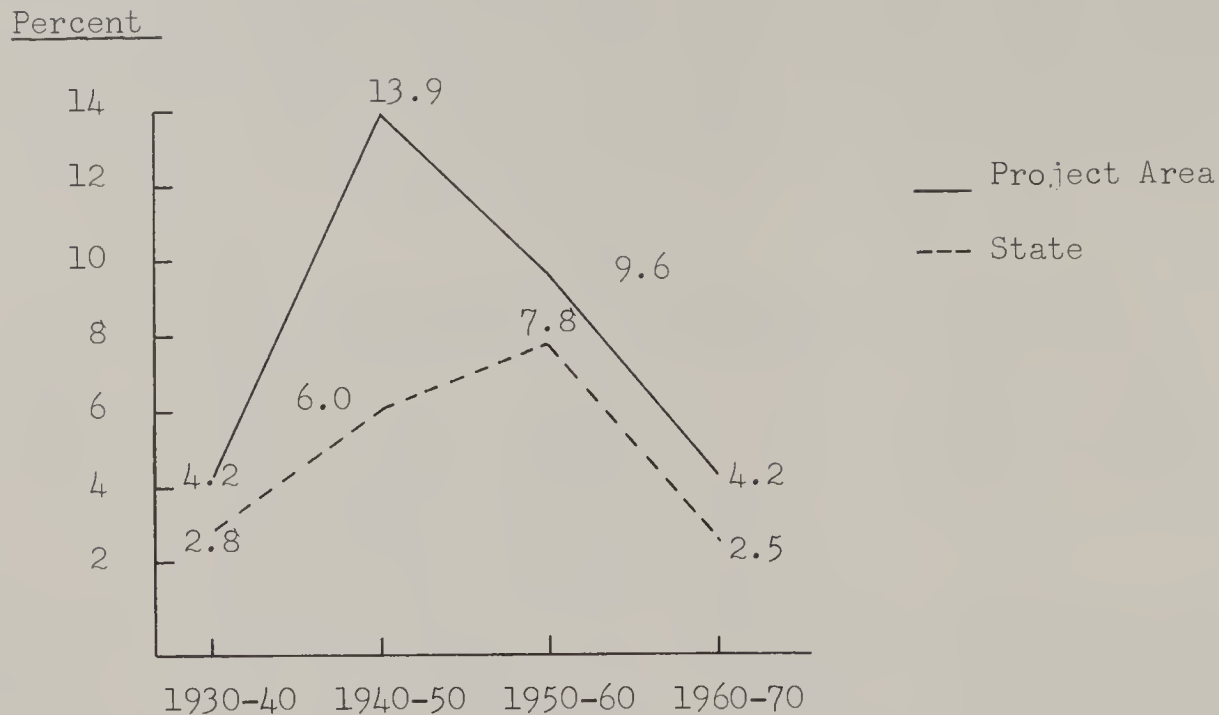
The slowing down of the growth rate has been caused by an acceleration in the out-migration rate during the last five years. This out-migration has increased in spite of a steady natural increase (excess births over deaths). Most of the people leaving the area are younger people in the child-bearing ages which will tend to slow down the future growth rates.

The 1970 density of population was 171 persons per square mile in comparison to the state average of 262. Crawford county is the most rural in nature with 70.0% of its population classified as rural in 1970. Venango and Mercer Counties were classified as 46.6% and 50.2% rural, respectively. Erie County is the most urban county with 75% of its population classified as urban. Area-wide, almost 40% of the population can be classified as rural. Of this amount, however, only 5.4% can be classified as rural farm people.

^{1/} Preliminary data from U. S. Census 1970.

^{2/} Projection made by the Pennsylvania State Planning Board, 1960. This projection may be high based on 1970 population figures.

FIGURE 6
PERCENTAGE OF POPULATION GROWTH



The two largest metropolitan centers within the area, Erie and Sharon, account for almost 32% of the total population. It is apparent, however, that while the city of Erie has increased in population slightly during the last decade most of the population growth is occurring in the suburbs of these two cities. Other smaller growth areas include Grove City Borough and its suburbs in Mercer County, clusters of townships surrounding Oil City and Franklin in Venango County, Meadville in Crawford County and Edinboro in Erie County.

Characteristics of the Economy

Economic activity within the project area is strongly influenced by two major industrial centers, the city of Erie to the north and the Sharon (Mercer)-Youngstown (Ohio) complex to the west. Erie with its excellent transportation facilities, including a port on the Great Lakes, and its proximity to seven major market areas provides the outlet point for manufactured goods. The Sharon-Youngstown complex provides the basic industries of iron, steel and allied products and is commonly known as the "Little Ruhr."

Of the 851 manufacturing industries located within the area in 1967, over 600 are clustered around the two major industrial centers. All of the manufacturing industries employed almost 40% of the total work force and had a value of production of 2.1 billion dollars.

Major manufacturing products produced by these industries include primary metals, machinery, electrical equipment, transportation equipment, chemical and allied products, rubber and plastics, and printing, publishing and allied products.

Mineral production, although not as significant as the manufacturing industries, is an important part of the economic base. Crawford County ranks fourth in the production of crude oil. Erie County has reserves of natural gas and produces approximately one percent of the total produced in the state. Mercer County, lying on the extreme western edge of the bituminous coal and crude petroleum reserves, has some production, but it is marginal. Venango County is located in the major oil-producing area and on the edge of the bituminous coal area. The county is the birthplace of the oil industry and ranks third in all the state in oil production, 14th in gas production, and 18th in soft coal production. Other mining products produced within the area include stone, clay, sand, glass and concrete products.

In 1963 there were a total of 8,720 retail and selected service establishments located in the project area. These establishments employed roughly 16 percent of the total work force and had sales totaling almost 1.1 billion dollars. Erie County had the largest number of establishments while Venango County had the smallest number.

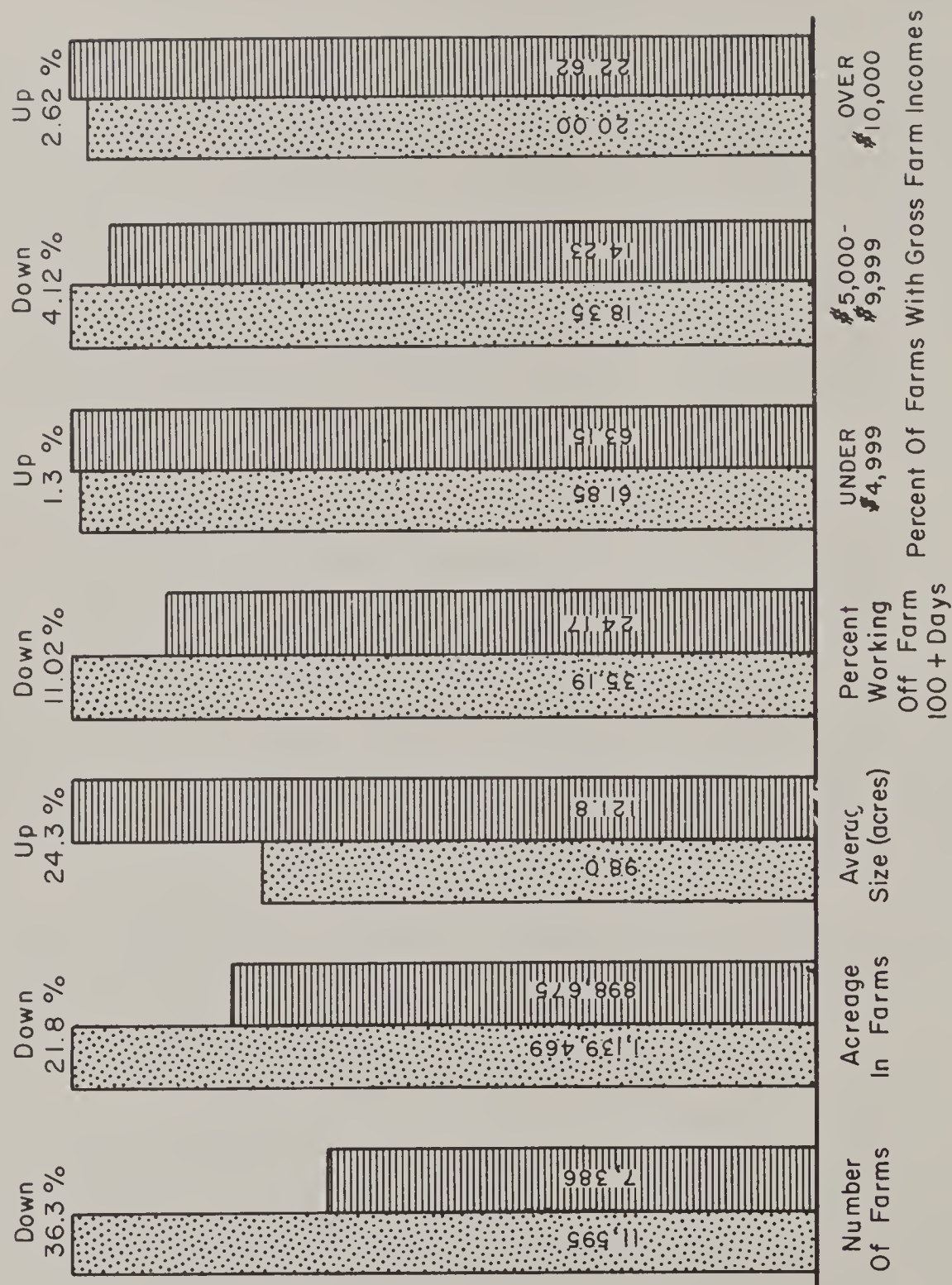
Historically and from the standpoint of land use, agriculture plays a significant role in the economy. Slightly over 36 percent of the project area is in crop and pastureland, and almost 49 percent is in woodland. In 1966, agriculture produced nearly 58 million dollars from the sale of farm commodities. Major agricultural products include dairy products and field crops (corn, oats, hay, fruit, and potatoes).

From the standpoint of growth and employment, agriculture has been declining rather rapidly. See Figure 7. From 1954 to 1964 the number of farms and the acreage in farms has declined by 36.3 percent and 21.8 percent, respectively. During this same period, the average size of farms has increased by 24.3 percent as farmers attempt to consolidate small farms into more efficient units.

These trends reflect the rapid adjustments taking place in agriculture to balance supply and demand and to increase farm income. Generally, it is the smaller farm unit with low farm income that is retiring from agriculture, while other farms are expanding into larger, more efficient and profitable operations in an attempt to increase farm income.

Although the percentage of farmers working off the farm has decreased by 11% since 1954 (Figure 7), the still relatively high number of farmers (2417) indicates further adjustments in agriculture are likely. Another indicator of future adjustments in agriculture is the number of farms with gross farm incomes of less than \$5,000. In 1964, 63% of the farms within the area were in this category. These are the farms that are most likely to go out of farming in the future.

FIGURE 7
CHANGES IN AGRICULTURE
Penn Soil Project Area



1954 1964

Labor Force, Employment, and Unemployment

The total work force and the total employment have increased only slightly from 1960-1967. See Table 7.

TABLE 7

LABOR FORCE DATA ^{1/}

<u>Year</u>	<u>Work Force</u>	<u>Employment</u>	<u>Unemployment</u>	<u>Rate of Unemployment</u>
1959	204,200	181,800	22,400	10.96
1968	212,200	205,100	7,100	3.34
Difference	+8,000	+23,300	-15,300	-7.62

^{1/} This data available by Labor Market Areas only and includes the labor force of Forest County which is not within the Project Area. In 1960 the labor force in Forest County totaled 1500.

While the work force increased by 3.9 percent or 8,000 workers from 1959 to 1968, the total employment increased by 12.8 percent or 23,300 workers. As a result, the unemployment rate dropped to 3.34 percent in 1968. Today, the area's unemployment rate closely parallels the state average rate of 3.4 percent. Historically, however, the unemployment rate within the area has been considerably higher than the state average. The net growth of the area's work force during this period has been slow in comparison to population growth reflecting the increasing rate of out-migration.

Employment by major sectors for 1959 and 1968 and the percent change are indicated in Table 8. The greatest positive changes in the employment of the work force have taken place in government, finance, insurance and real estate, and contract construction. All of these sectors have experienced increases of 35 or more percent during the period 1959 to 1968. Agriculture, on the other hand, has experienced the greatest decrease during this period, down 18.8 percent or 1600 workers. Manufacturing remains the single largest employment sector within the area and has been increasing at the rate of 1.7 percent annually. The wholesale and retail trade and services sectors which rank second and third, respectively, in number employed, have growth trends which closely parallel the manufacturing sector.

TABLE 8
CIVILIAN WORK FORCE 1/
1959 - 1968

Item	1959		1968		Percent Change From 1959 Base
	Number	Percent	Number	Percent	
Manufacturing	70,300	34.42	82,600	38.92	+17.49
Services	19,200	9.04	22,700	10.69	+18.22
Wholesale & Retail Trade	26,100	12.78	29,700	13.71	+13.79
Government	15,600	7.63	21,100	9.94	+35.25
Transportation & Public Utilities	11,200	5.48	11,200	5.27	--
Finance Insurance & Real Estate	4,300	2.10	5,200	2.45	+20.93
Contract Construction	4,800	2.35	7,100	3.34	+47.91
Mining	600	.29	600	.28	--
All Other Non-Agricultural	21,200	10.38	18,000	8.48	-15.09
Agriculture	8,500	4.16	6,900	3.25	-18.82
TOTAL Employed	181,800	89.03	205,100	96.65	+12.81

1/ This data was compiled by labor market areas. The labor market areas include all of the project area plus Forest County. There is no practical method of separating Forest County data from these data. However, the total work force in Forest County in 1960 was estimated to be 1500 workers which is an insignificant part of the total.

Income

In 1960 the median family income in the project area was \$5,506 in comparison to the state average of \$5,194. Family incomes ranged from a high of \$5,872 in Mercer County to a low of \$5,110 in Venango County. Farm families have a higher proportion of below average family incomes than any other employment sector. (Approximately 63 percent of the farms had gross farm incomes of less than \$5,000 in 1964.)

Table 9 compares estimates of per capita personal income for the years 1960 and 1963. In both of these years the average per capita income for the project area was below state averages.

TABLE 9

ESTIMATES OF PER CAPITA PERSONAL INCOME

<u>County</u>	<u>1960</u>	<u>1963</u>
Crawford	\$2100	\$2250
Erie	2220	2430
Mercer	2260	2410
Venango	<u>2010</u>	<u>2120</u>
Project Average	\$2147	\$2302
State Average	2270	2450

Housing

There were about 167,600 housing units in the project area in 1960. Of this amount, 72.7 percent were owner occupied. The average value of the housing units was \$9,450 with Erie County homes having a high average value of \$11,000 and Venango County the low average value of \$7,300.

New construction of buildings reported by 58 municipalities within the project area in 1966 totaled over 78.4 million dollars. However, 79 percent of this amount was for non-housing construction.

Of the total number of houses within the area only 73.7 percent are considered to be sound. Venango County has the highest percentage of unsound houses while Erie County has the lowest percentage.

Community Facilities

The northwest region is served by a network of good two-lane highways, and upon completion of the interstate system, the region will be readily accessible from all points via Interstate Routes 79, 80, and 90.

Air, rail, bus and truck service is considered to be adequate with Erie and Mercer Counties having probably the best service within the area. Lake Erie provides a fine port which links the region with all the Great Lakes and the Atlantic Ocean.

Nine institutions of higher learning and five branches of other colleges are located within the project area. These institutions provide ample educational resources to meet the normal four year college program needs of the four counties. However, graduate training beyond the normal four year program is inadequate.

All the counties have county and/or regional planning programs underway which all have as a major objective the completion of a comprehensive plan. Although good progress has been made on comprehensive plans, not enough has been done towards the development, adoption and enforcement of sound subdivision regulations, including the control of urban erosion and sediment.

Several major health problems are present throughout the area. Ground-water pollution from a variety of sources is common on the glacial gravels. Because of the small size of communities and their distance from one another, the planning and financing of adequate sewer and water facilities is lagging. Industrial waste disposal and air pollution are serious problems in the industrial areas of Mercer and Erie Counties.



There is a need to expand and modernize community facilities to keep pace with the changing economy of the area.

The Nature of the Area Is Changing — — —



The number of farms are declining — — —



Even the landscape is changing — — —



Land use is changing.

PROJECT MAPS

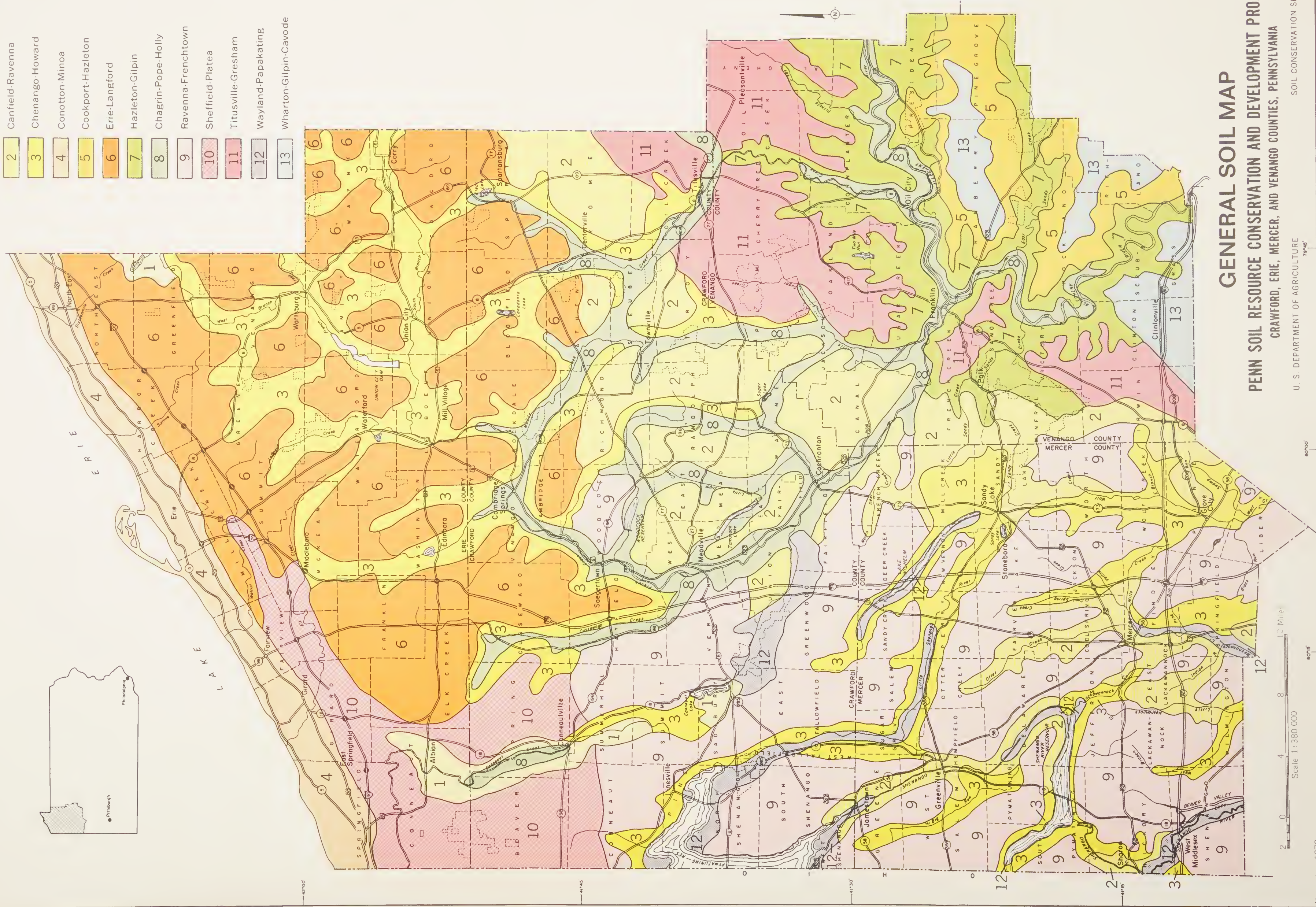
- General Soil Map
- Water Resources
- Land Use
- Recreation Land

GENERAL SOIL AREA DESCRIPTIONS

1. CANEADEA-CANADICE ASSOCIATION: Deep, somewhat poorly and poorly drained, fine textured grayish soils on glacial lake plains.
2. CANFIELD-RAVENNA ASSOCIATION: Deep, moderately well and somewhat poorly drained yellowish brown soils on glacial uplands mainly adjacent to stream valleys south of highways 322 and 77.
3. CHENANGO-HOWARD-BRACEVILLE ASSOCIATION: Deep, well and moderately well drained moderately coarse-textured, brownish soils on glacial stream terraces along the major streams.
4. CONOTTON-MINOA ASSOCIATION: Deep, well to somewhat poorly drained, moderately coarse-textured, brownish soils on the lake plain and beach ridges of Lake Erie.
5. COOKPORT-HAZLETON ASSOCIATION: Deep, well and moderately well drained yellowish brown and strong brown medium-textured soils mainly on sandy residual uplands.
6. ERIE-LANGFORD ASSOCIATION: Somewhat poorly and moderately well drained grayish and brownish medium textured soils on limy glaciated uplands mainly in the northwestern part of the area.
7. HAZLETON-GILPIN ASSOCIATION: Well drained yellowish brown to strong brown medium textured soils on sloping to very steep sandy and shaly residual uplands.
8. CHAGRIN-POPE-HOLLY ASSOCIATION: Well to poorly drained, nearly level soils on floodplains along French Creek, the Allegheny River and other streams in the area.
9. RAVENNA-FRENCHTOWN ASSOCIATION: Somewhat poorly and poorly drained grayish medium textured soils on nearly level to gently sloping glaciated uplands mainly in the southwestern part of the area.
10. SHEFFIELD-PLATEA ASSOCIATION: Poorly and somewhat poorly drained, grayish medium textured silty soils on nearly level glaciated uplands.
11. TITUSVILLE-GRESHAM ASSOCIATION: Moderately well and somewhat poorly drained yellowish brown and grayish medium textured loamy soils of sloping old glaciated uplands.
12. WAYLAND-PAPAKATING ASSOCIATION: Poorly and very poorly drained gray fine textured and moderately fine textured on level floodplains mainly in the southwestern part of the area.
13. WHARTON-GILPIN-CAVODE ASSOCIATION: Well to somewhat poorly drained grayish to brownish medium to fine textured soils of the residual uplands in the southeastern part of the area.

LEGEND

- | | |
|----|-----------------------|
| 1 | Caneadea-Canadice |
| 2 | Canfield-Ravenna |
| 3 | Chenango-Howard |
| 4 | Conotton-Minoa |
| 5 | Cookport-Hazleton |
| 6 | Erie-Langford |
| 7 | Hazleton-Gilpin |
| 8 | Chagrin-Pope-Holly |
| 9 | Ravenna-Frenchtown |
| 10 | Sheffield-Platea |
| 11 | Titusville-Gresham |
| 12 | Wayland-Papakating |
| 13 | Wharton-Gilpin-Cavode |

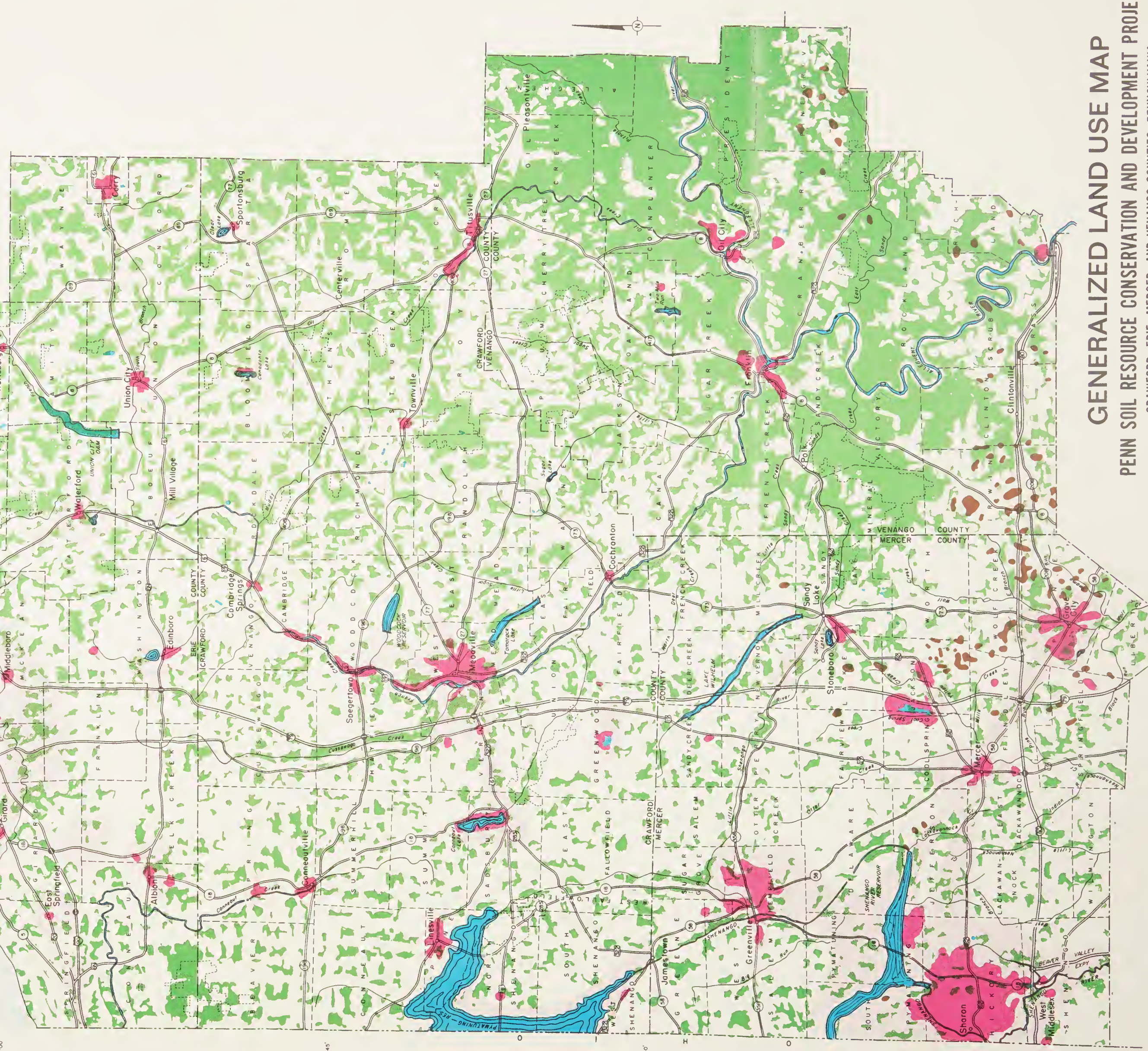


GENERAL SOIL MAP

PENN SOIL RESOURCE CONSERVATION AND DEVELOPMENT PROJECT
CRAWFORD, ERIE, MERCER, AND VENANGO COUNTIES, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE



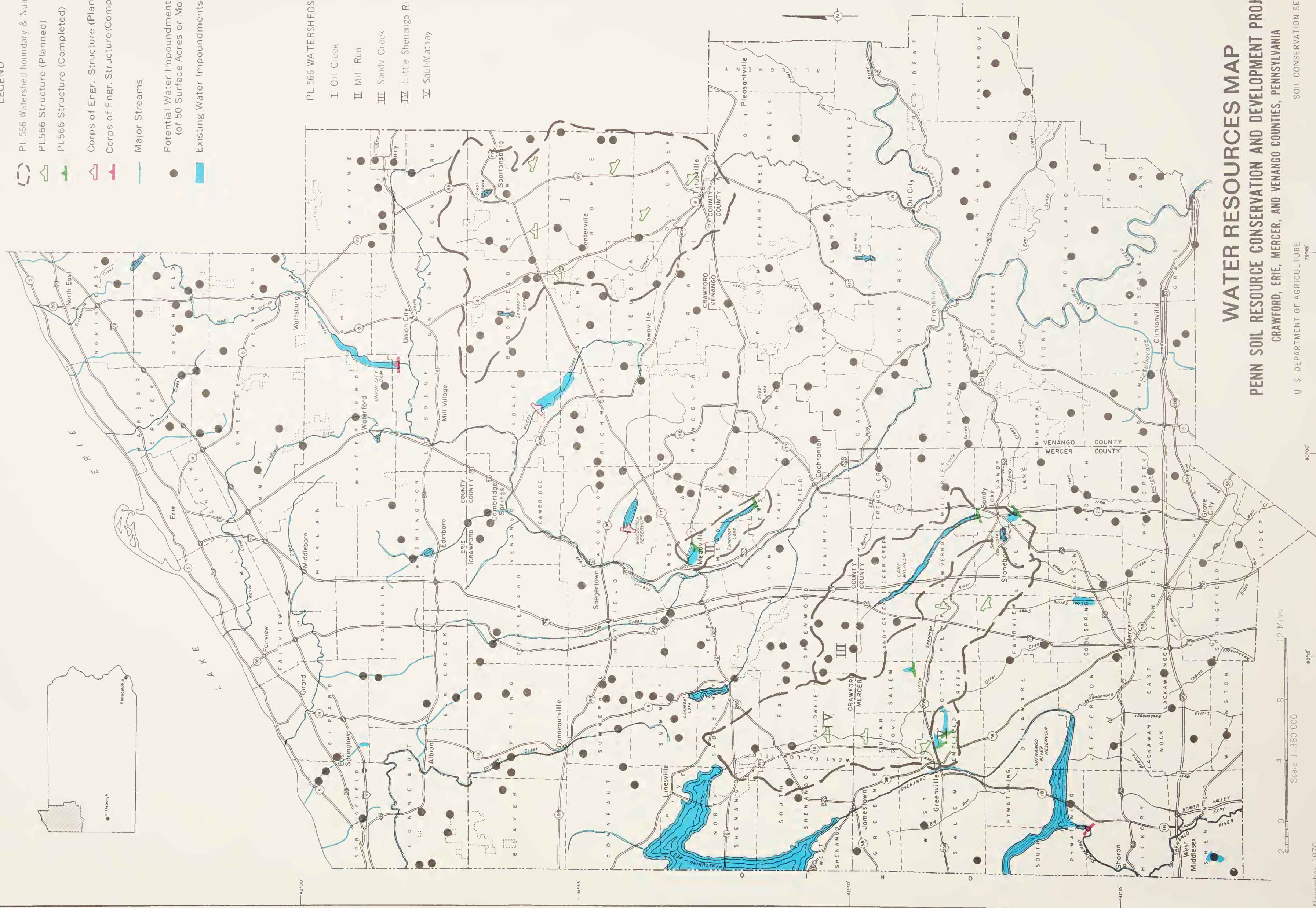
GENERALIZED LAND USE MAP
PENN SOIL RESOURCE CONSERVATION AND DEVELOPMENT PROJECT
CRAWFORD, ERIE, MERCER, AND VENANGO COUNTIES, PENNSYLVANIA
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

LEGEND

- PL 566 Watershed boundary & Number
- PL566 Structure (Planned)
- PL566 Structure (Completed)
- Corps of Engr. Structure (Planned)
- Corps of Engr. Structure (Completed)
- Major Streams
- Potential Water Impoundment Sites (of 50 Surface Acres or More)
- Existing Water Impoundments

PL 566 WATERSHEDS

- I Oil Creek
- II Mill Run
- III Sandy Creek
- IV Little Shenango River
- V Saul-Mathay



WATER RESOURCES MAP

PENN SOIL RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

CRAWFORD, ERIE, MERCER, AND VENANGO COUNTIES, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
1970

SOIL CONSERVATION SERVICE

November 1970

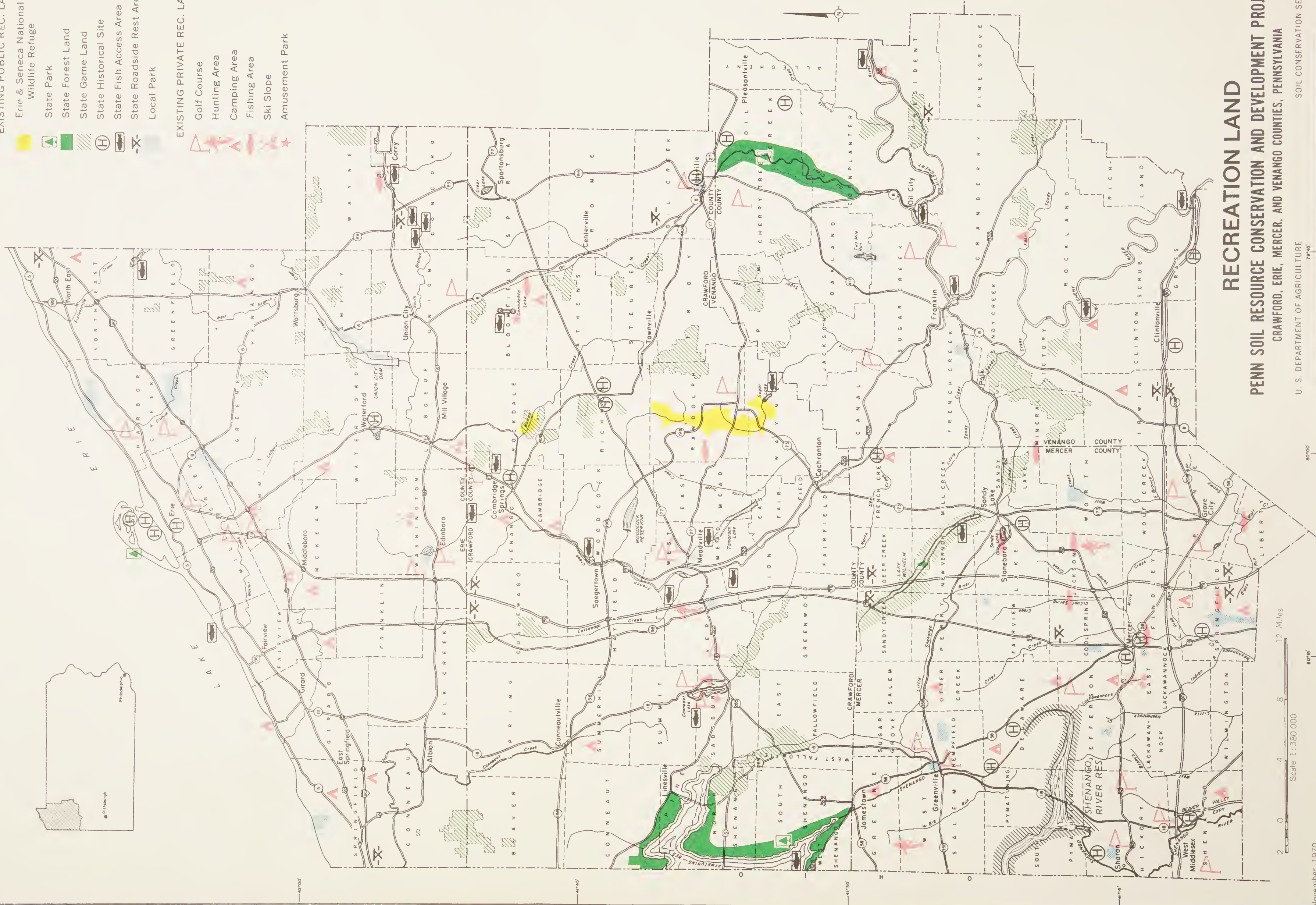
LEGEND

EXISTING PUBLIC REC. LAND

- Erie & Seneca National Wildlife Refuge
- State Park
- State Forest Land
- State Game Land
- State Historical Site
- State Fish Access Area
- State Roadside Rest Area
- Local Park

EXISTING PRIVATE REC. LAND

- Golf Course
- Hunting Area
- Camping Area
- Fishing Area
- Ski Slope
- Amusement Park



RECREATION LAND

PENN SOIL RESOURCE CONSERVATION AND DEVELOPMENT PROJECT
CRAWFORD, ERIE, MERCER, AND VENANGO COUNTIES, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

November 1970

Scale 1:380 000

2 0 4 8 12 Miles

PROJECT PROBLEMS AND OPPORTUNITIES WITH THE NATURAL RESOURCE BASE

- Agriculture and Woodland
- Water
- Outdoor Recreation, Fish and Wildlife
- Community Environment

PROJECT PROBLEMS AND OPPORTUNITIES

Effective resource conservation and development planning begins with the clear identification of the available resources and related problems and opportunities. Oftentimes the apparent problem is not the real problem preventing sound resource use. For example, the apparent problem of low farm income may be any of the real problems of inefficient farm size, unfavorable soil conditions and lack of operator experience, training and capital. Any attempt to improve low farm income must take into consideration these real problems if it is to succeed.

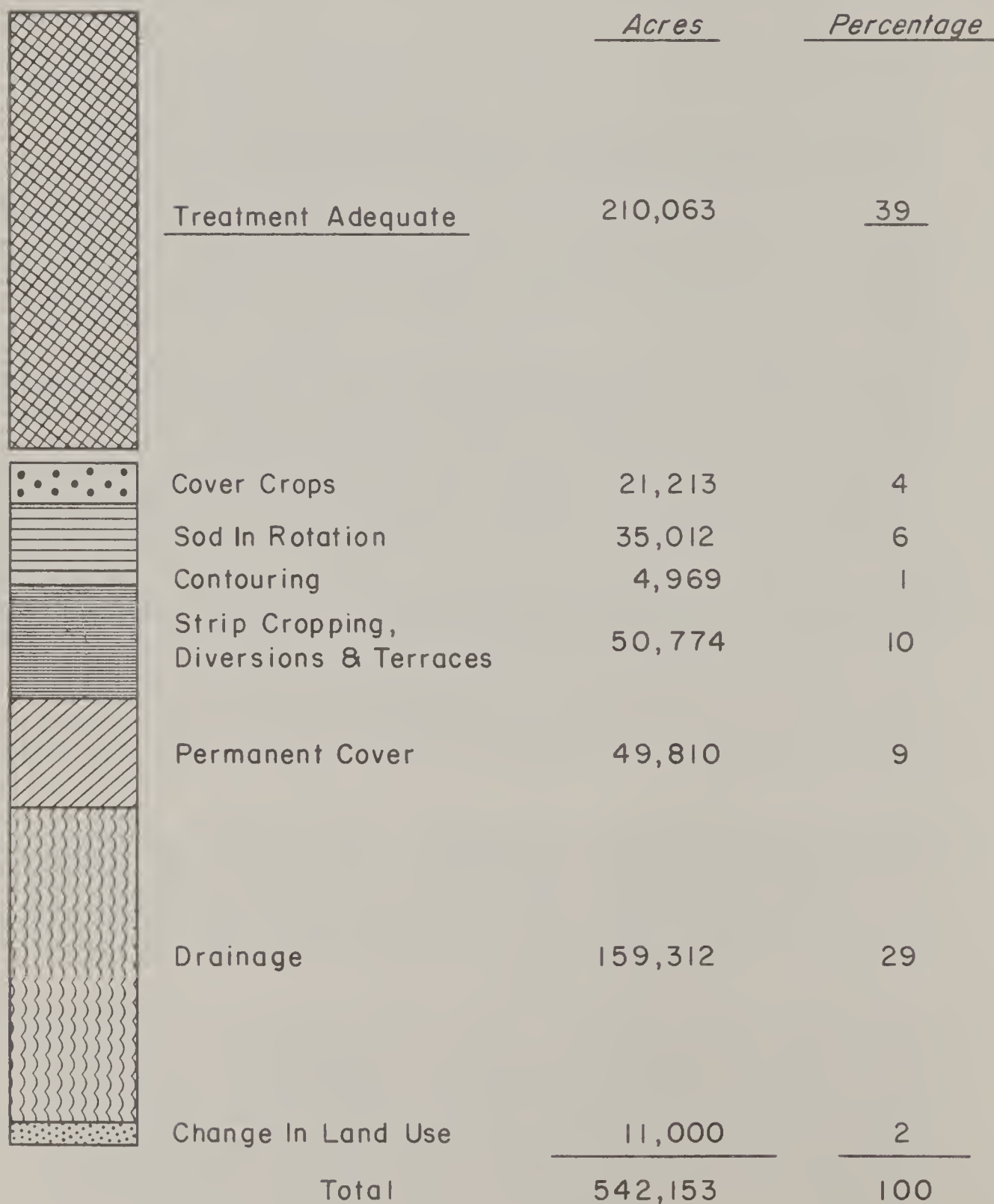
Early in the planning process our local study groups recognized the necessity of pinpointing real problems if they were going to effect sound and enduring changes in the use of resources. This section is a summary of the resource-related problems and opportunities which local study groups identified. No attempt was made to be all inclusive but rather to provide a starting point from which planning solutions could begin.

Agriculture and Woodland Problems

1. Unfavorable Soil Conditions - Approximately 71 percent of the cropland and pasture soils have a problem of wetness (a seasonally high water table within 30 inches or less of the surface.) This problem is difficult to overcome. Many wet areas are too flat or lack outlets for satisfactory drainage. Some soils have restricting layers which make drainage impractical. Even where drainage is feasible, the relatively high cost prohibits installation for many farmers.
2. Short Growing Season - With the exception of the narrow lake belt paralleling Lake Erie the short growing season of 119 days (average) limits the choice of crops especially corn varieties.
3. Lagging Conservation Land Treatment - According to the 1968 Conservation Needs Inventory, 61 percent of the cropland and 54 percent of the pastureland need conservation treatment. See Figures 8 and 9. Relatively rapid changes in land ownership, scarcity of capital, and operator age (older farmers are reluctant to make long term investments) are some of the factors contributing to this problem.
4. Lack of Resources for Efficient Production - Over 63 percent of the farms yielded gross farm incomes of less than \$4,999 in 1964. Most of these farm operators lack one or more of the following: necessary capital, land, facilities, and equipment for efficient production. Many of these same farm operators need additional management skills and training to compete in the modern agricultural economy.
5. Competition for Prime Agricultural Land - Utility and transportation companies, as well as others, have need for additional land and are permanently removing some of the best agricultural lands from production. This is true especially in the lake belt area along Lake Erie. From 1958 to 1968 the amount of land in urban uses has increased by 31.7 percent, mostly at the expense of prime agricultural land.
6. Establishing Young People in Farming - Approximately 39 percent of the present farm operators are 55 or more years old. Not enough young people are becoming established in farming to offset those who are retiring. Some of the reasons for this situation are the long working hours, difficulty in establishing a line of credit and low returns on invested capital.
7. Agricultural Waste Disposal - Many area farms which have drastically increased the number of livestock or poultry have serious problems of agricultural waste disposal. Pennsylvania's new Clean Streams Law makes it difficult for several of these operations to continue unless adequate agricultural waste disposal systems are installed. Usually adequate and environmentally safe systems of disposal require an outlay of several thousands of dollars and

CONSERVATION TREATMENT NEEDS FOR CROPLAND

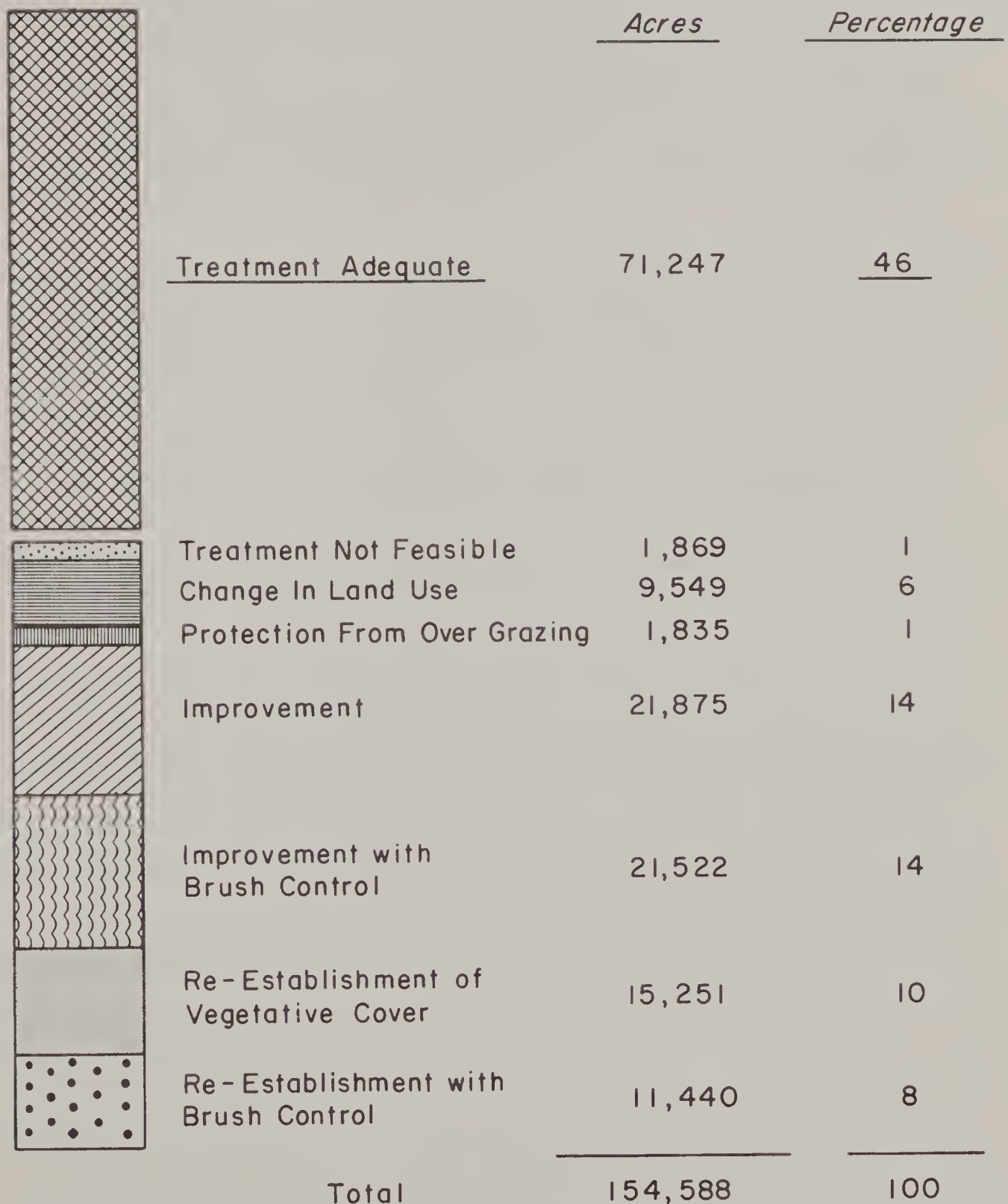
Penn Soil Project Area



CNI 1968

CONSERVATION TREATMENT NEEDS FOR PASTURE

Penn Soil Project Area



CNI 1968

careful management. In addition, many farmers are finding it more and more difficult to live next to their urban neighbors using old methods of waste disposal.

8. Related Agricultural Problems - Many other problems are related to those previously mentioned. These include economic loss in abandonment of unresponsive soils, accessibility of markets, instability of prices and technological problems such as weed and insect control and outdated and delapidated farm buildings.
9. Poor Quality Growing Stock and Species Composition - Almost two centuries of "cutting the best and leaving the worst" has produced low quality stands that have high proportions of growing space occupied by defective or undesirable species. Statistics indicate only 8 percent of the growing hardwood sawtimber is composed of grade #1 or better logs, whereas, 73 percent is grade #3 or below.^{1/} Ten percent of the present growing volume is cull trees.

This condition can partly be contributed to a lack of proper woodland management techniques on the part of the landowner. But, at the same time, management of this type of woodland is discouraging because of the relatively high initial cost and long wait for returns.

In addition, poor quality saw logs are difficult to market at a profit and the better sawmill operators are not interested in handling them.

Overcutting of sawtimber, that is, cutting more volume than is replaced by annual growth, is also a problem throughout the project area.

Finally, an estimated 28 percent of the total woodland area does not have the soil potential to produce quality stands.

10. Conservation Treatment Needs - Conservation treatment is needed on approximately 500,000 acres of woodland as follows: ^{2/}
 - a. Tree planting or reenforcement of stand is needed on 231,534 acres of poorly stocked woodland and idle areas which are reverting to woodland.
 - b. Fencing is needed to protect 35,100 acres of woodland from grazing by livestock.

^{1/} Timber Resource of Pennsylvania U. S. Forest Service Bulletin NE8-1968

^{2/} From unpublished data collected in the 1967 Conservation Needs Inventory

- c. Critical area planting is needed on approximately 2,000 acres of land that has been strip mined for coal or quarried for gravel.
- d. Woodland improvement - timber stand improvement - will be needed on approximately 60 percent of the woodland used for timber production.
- e. Erosion control practices are needed on approximately 60 miles of skid trails and access roads.

Conservation treatment of the woodlands is hindered by lack of interest, labor and cash on the part of the landowner. Limited markets for low quality sawlogs, pole timber and the long waiting period for returns from management tend to discourage landowners from carrying out timber stand improvement.

- 11. A failure to recognize woodland owners' varied interests - Sometimes technical and educational programs fail to recognize the varied interests of woodland owners. The least of which in many instances is the manipulation of their woods. Many landowners are not interested in woodland management per se. Many landowners look upon their trees as wildlife areas, recreation areas, or simply as a natural area enhanced by trees. Expanded educational programs are needed to inform landowners of the varied opportunities for using their woodlands. A good neighbor relationship must be established between the public and the woodland owner if sportsmen's interests are to be recognized and served. Also, those landowners who are interested in wood production must be made aware of soil-tree species interrelationship and its affect on management before a course of action can be selected.
- 12. Woodlot size and ownership patterns hinder the use and treatment of woodland - A large percentage of the woodland within the project area occurs as small scattered tracts of less than 50 acres in size. (See Land Use Map.) Even where there are rather large contiguous blocks of woodland the ownership pattern divides these blocks into small parcels. Also, many of these same woodland owners are absentee owners. This situation makes it difficult to "sell the needed conservation treatment and woodland management" to the owner. Economically it is not feasible to manage many of these small tracts unless it can be done as a cooperative venture with neighboring owners.

Opportunities in Agriculture and Woodland

Alternatives for improving the agricultural economy and the family farm include:

1. Increasing the size and degree of intensity for certain farm units.
2. Improving the technical and management skills of farm operators in all fields of agriculture, including agricultural waste disposal.
3. Converting a limited number of farms from agriculture to income producing recreational enterprises.
4. Shifting farm enterprises where soils and management skills are suitable to specialty crops such as sod, nursery stock, small fruits including grapes, and vegetables.
5. Expanding job opportunities in allied agribusinesses.
6. Securing jobs for certain marginal farm operators which will keep them on the farm but not farming for a living.
7. Relocating in the Penn Soil area farmers forced out of agriculture in the urbanizing areas of the state.
8. Preserving prime agricultural land.

Expanded use of good farm records systems followed up by careful analysis will help in determining which alternative(s) are most applicable to particular farming operation. Expanded and accelerated educational programs will help improve operator, technical and management skills. Accelerated conservation planning will help to protect and develop land based upon its capabilities and user needs. Inventories of the amount, location, quality and availability of agricultural land will guide local people in developing workable ways of conserving prime agricultural land. These same inventories may also be used as a promotional tool to attract farmers from other areas within the state.

Opportunities to better utilize the forest resource and increase financial returns to the project area include:

1. Increasing the proportion of quality timber produced.
2. Increasing returns to landowners, sawmill operators and woods workers.
3. Increasing the aesthetic, recreation, wildlife and watershed value of the area.

Almost 72 percent of the woodland is growing on soils which have a site quality rating of excellent to good. (See Woodland Soil Classification Table 10.) These areas have the inherent ability to produce good tree growth. Also, these same soils can grow and support such species as

yellow poplar, black cherry, ash, red oak and sugar maple. These species are in demand and quality trees can be grown on these good and better sites. It is important that the owner of woodland understand the soils of his property and know the kinds of trees growing there before deciding the course of action he will pursue.

Private industry is interested in quality material. The demand for such, whether it be in saw logs or pulpwood or other wood products, is ever present. Also, quality material demands the higher price. A majority of the acres in woodland have this potential.

Woodlands in this area have a high wildlife potential use for sportsmen. Hunting for all types of game is in great demand and these woodlands can support this demand. The edge effect, created by fields adjacent to the many scattered woodlands, is conducive for the development of good game management.

These same areas have appeal for the recreationist. In general, people like trees and they will pay to wander around, camp in, and play under wooded conditions.

The aesthetic values of woodland areas are often underestimated. The tree and shrub species growing in the area are capable of producing vivid fall colorations. People are attracted by leaf colors and will drive miles to view nature's fall spectacle. The woodlands in the project area have an abundance of tree, shrub and vine species which produce, under nature's spell, beautiful autumn scenes.

The drabness of winter within the area can be brightened by the planting of evergreens. Many acres best suited for this use are available.



Not all the values of the woodland can be measured in dollars.

Some Problems in Agriculture and Woodland



Erosion is still a problem
on the farm.



New uses must be found for
woodland products and the
processing wastes.



About 71 percent of the
cropland and pasture has a
problem of wetness.

TABLE 10
WOODLAND SOIL CLASSIFICATION 1/
Acreages and Percentages

County	Total Woodland	Excellent	Good	Fair	Poor
Crawford	306,800	17,780 (5.8%)	177,980 (58.1%)	42,630 (13.9%)	68,410 (22.3%)
Erie	223,100	2,310 (1.0%)	120,450 (54.0%)	24,520 (11.0%)	78,820 (34.0%)
Mercer	159,600	7,050 (4.4%)	114,000 (71.5%)	4,830 (3.1%)	33,720 (21.0%)
Venango	361,700	28,936 (8.0%)	289,360 (80.0%)	36,170 (10.0%)	7,234 (2.0%)
TOTAL	1,051,200	56,076 (5.0%)	701,790 (67.0%)	108,150 (10.0%)	185,184 (18.0%)

1/ Source and basis of ratings: Soil Conservation Service data, Harrisburg, Pennsylvania

Water Problems

1. Pollution - Poor Quality Water - Approximately 230 miles or 20 percent of the streams and rivers are so polluted that their use as a water supply and for certain recreation activities is impractical and unsafe. Lake Erie and other smaller inland lakes are showing the effects of the pollution that has taken place over many years. Common pollutants include sulfuric acid from coal mining operations, industrial and domestic sewage sediment and a variety of chemicals such as mercury, phosphates and chlorinated hydrocarbons.

Although most people are deeply concerned about the extent of pollution, corrective action has been slow because of the high costs involved in eliminating many of these pollutants. For example, many communities do not have the tax base necessary to provide modern sewage treatment. Treatment of acid water is even more expensive and in many situations new technology is needed before this problem can be fully resolved.

2. Flooding - When the area was first settled the streams provided a means of transportation to reach markets to the south. Homes and factories were constructed on the broad flood plains along these streams. Over the intervening years, development extended outward from these flood plains. During this same period upland areas were cleared for agriculture. The denuded, predominantly wet soils on gently to moderately steep slopes contributed to maximum runoff periods.

The first major flood causing property damage occurred in 1865. Thereafter, major property damage occurred on the average of every 10 years until about 1950 when the period between floods was reduced to about two years.

In 1958, the Saul-Mathay Watershed, the first application for assistance under the Watershed Protection and Flood Prevention Act, Public Law 566, was submitted to the U. S. Department of Agriculture. Since that time seven similar applications have been made. Three of these projects have been completed and two are under construction. Average annual damages in these six watersheds (see Water Resources Map) amounted to \$367,000 prior to June 30, 1963. Since that date flood control structures have been completed on Saul-Mathay, Mill Run and Sandy Creek reducing present average annual damages to \$309,000. Principal damage centers are Coopers-town, Franklin, Greenville, Grove City, Meadville, Mercer, Oil City, Polk, Sandy Lake, Sharon, Stoneboro and Titusville.

There have been serious flood damages on the Shenango River. The Army Corps of Engineers completed a flood control structure on the Shenango River near Sharpsville in 1967. This multiple purpose flood control structure provides a 1,910 acre lake for recreation and low flow augmentation on the Shenango River.

The U. S. Army Corps of Engineers has developed a flood control plan for the French Creek Basin. The three structures located on Woodcock Creek, Muddy Run and French Creek (Union City) are in the project area. (See Water Resources Map.) Two of these structures, Union City and Woodcock, are under way. The completion of this project will provide much needed flood control at Meadville as well as provide greater opportunity for recreation along French Creek.

In addition to the more spectacular urban damages there is frequent widespread flooding in rural sections. This causes extensive stream bank erosion, bridge damage, crop damage and restricted travel throughout the flood plains. Recreational development along French, Sugar and Oil Creeks has been restricted because of this flood hazard.

3. Contamination of Groundwater Supplies - Many rural water supplies are contaminated by acid, high iron content (red water), and coliform bacteria. Some estimates indicate that this problem affects 40 - 50 percent of the rural water supplies. It is difficult to accurately pinpoint all the supplies that are affected because most of these water supplies are individual wells and springs. Contamination of these sources of water supply can be attributed to:

- a. Abandoned and improperly sealed oil and gas wells.
- b. Malfunction of septic tanks in slowly permeable soils.
- c. Improperly cased and sealed water wells.
- d. Permeable glacial sands and gravel which underlie most of the area.

The relative sparse population and isolation of many of the rural homes makes the installation of public sewer and water facilities economically impractical at this time.

Opportunities for Water Development

Opportunities for improvement of water quality, reduction of flood damage and development of water resources for a variety of uses include:

1. Expanded enforcement of Pennsylvania's new Clean Streams Law.
2. Implementation of existing plans for watershed protection and flood control including wise land use and treatment.
3. Preparation and enforcement of regulations which recognize flood plains and the hazards connected with their use.
4. Development of potential impoundment sites for water supply, pollution abatement, flood protection and recreation.

5. Development of an educational program on how to protect and treat home water supplies.

Pennsylvania's Clean Streams Law, Act 222, 1970, is designed "to preserve and improve the purity of the waters of the Commonwealth for the protection of public health, animal and aquatic life and for industrial consumption and recreation. . ." This act provides legal means for controlling, limiting and enforcing pollution abatement of all types, including sediment. For the first time, violators are subject to heavy fines and penalties for each violation. Civil penalties may be assessed for each violation, whether or not the act was willful, up to \$10,000 per violation, plus \$500 per day for continued violation. State agencies working under the provisions of this act now have an effective tool for combating pollution. Sincere and enthusiastic implementation of this act will significantly reduce the amount of pollution. Improved flood control and sediment reduction can be provided by the application of land treatment measures and installation of the remaining ten Public Law 566 and one Army Corps of Engineers' Flood Control Structure. (See Water Resources Map.)

Acceleration of the land treatment program will protect the flood control measures by minimizing the amount of sediment deposition behind the structures and for the same reason will improve water quality sooner.

Recent studies of potential water impoundment sites developed for the local Soil and Water Conservation Districts have pinpointed the locations of 220 sites of 50 or more acres in size. (Refer to Water Resources Map.) Although some of these sites are located on polluted streams, there are ample opportunities for development in a wide variety of uses. Many of these sites have potential for low flow augmentation, acid pollution treatment, water supply and recreation.

Local communities are just beginning to identify soil hazard areas such as flood plains and steep slopes and use these hazards as a basis for land use regulation. In the future, there will be many opportunities to delineate such areas on official maps. There will be a need to use these maps as the basis for land use regulations which recognize the dangers to the public in developing such an area.

Ultimately, development and expansion of public water supplies will ease the problems of contaminated rural water supplies. In the meantime, educational programs can be developed which will help rural users to adequately test, protect and treat their home water supplies. Many water treatment methods are available, which are feasible for rural home owners to install and maintain, if they are aware of them and realize the need.

Some Water Problems —



Flooding is a major problem.



Pollution limits the use of over 230 miles of streams.



Acid mine drainage has contaminated both surface and subsurface water.

Outdoor Recreation, Fish and Wildlife Problems

1. Need for expanded recreational facilities - Although this area has an ample acreage of state owned (public) recreation land (48.6 acres/1000 people vs. the state standard of 25 acres/1000 persons), there is a need for expanded supporting facilities. Facilities such as modern motels, restaurants and food service, camp sites, vacation homes, boat sales, service and launching areas and other similar facilities are in short supply. Also, throughout much of the area there is a shortage of local parks and facilities of the type that are within walking distance of the users. Examples include ball fields, tot lots, tennis courts and swimming pools.

Another essential part of this problem is the need to accurately inventory and evaluate the potentials for facility development on a county by county basis. Crawford County is the only county that has a recreation appraisal available for use.

2. Lack of quality in recreation enterprises and developments - Closely related to the preceeding problem is the lack of quality in existing recreational enterprises. Many existing facilities are substandard and need a considerable investment of capital to bring them up to acceptable standards. Modern sanitary facilities including solid waste disposal are basic to solving this problem.

Although the number of vacation homes increased by an average of 164 percent from 1950 to 1960, many of these homes are in a deteriorating condition. Many old farm houses and idle farms have been bought up by absentee owners as vacation homes. Many of these owners do not have the interest, community pride, time and money to improve these homes. Possibly some of this neglect is deliberate to seek a tax advantage.

Many historical and scenic attractions throughout the area remain in private ownership and are not fully developed. Only six historical sites are in public ownership but there are an estimated 15 other sites which could be improved, developed and expanded to take advantage of a growing tourist trade.

3. Lack of management ability and capital for recreation enterprises - A lack of management know-how and capital are probably the two most limiting factors in improving the recreational opportunities within the area.

Educational programs designed to train owners and managers of recreational facilities need to be expanded. Technical data on costs and returns, significant factors essential to a specific facility, must be known and understood if a private recreational development is to be successful.

Certain recreational facilities require a high initial capital investment in basic facilities including sanitary facilities. Many local landowners who have sites with recreational potential do not

have sufficient borrowing power to obtain enough capital for the required basic facilities. Another facet of the problem is that local banks are reluctant to loan money to farmers who want to develop income producing recreation facilities.

4. Pollution, sportsman-landowner relations and dwindling open lands seriously affect the fish and wildlife resources. Associated problems include high hunting and fishing pressures, posting of land, and streambank and soil erosion.

The area's closeness to the urban centers of Cleveland, Pittsburgh, Buffalo, Erie and the newly constructed interstate highway system, has added to hunting and fishing pressures and sportsman-landowner problems. Broken fences, gates left open, livestock, property and crop damage by careless sportsmen all contribute to the problem. Stocking rates for both fish and small game species, along with improved methods of intensive management, have to be increased to keep pace with the demand.

Streambank and soil erosion contribute vast amounts of sediment to streams and lakes annually. Sediment reduces water quality which in turn reduces the quantity of fish life. Although sound land use practices applied through agricultural programs in the past have reduced this problem, sediment is still considered the area's number one pollutant.

Expansion of rural communities and new highways are decreasing the amount of land which was once available as wildlife habitat. Usually, these types of development destroy far more habitat than is needed. For instance, a new highway that takes 50 acres out of the center of a 150 acre marsh may well ruin the entire area for waterfowl habitat.

Opportunities for Improvement of Recreation, Fish and Wildlife Resources

Opportunities for development, expansion and improvement of the recreational, fish and wildlife resources may be divided into two categories: those which relate to promotion and those which relate to development or improvement. Promotional opportunities include not only those that are aimed at attracting additional tourists and recreationalists, but also those which will attract developers and investors who have the necessary capital required for sound development. Effective promotional efforts will require:

1. An inventory and appraisal of recreational potentials.
2. Publication of attractive literature and information which will attract both the tourist and the developer.
3. Expansion and strengthening of local tourist promotional agencies.

4. Organization of a recreational advisory group of technical people including economists who can counsel or consult with persons interested in recreational development.

Opportunities for development and improvement of recreation, fish and wildlife are more or less obvious. The project area has already built an outstanding reputation for its water-oriented recreation and is commonly referred to as the "Lakelands of Western Pennsylvania." Annually, an estimated 8 million tourists and vacationers visit the area.

Some of the outstanding water-oriented recreational potential for development can be found around the Shenango River Reservoir, the southern tip of the Pymatuning Reservoir, around Lake Wilhelm (Maurice Goddard State Park) along the Allegheny River, at the Union City Reservoir, and adjacent to Lake Erie. In addition, the local Soil and Water Conservation Districts have identified 220 potential impoundment sites of more than 50 acres in size. (See Water Resources Map.) Some 12 of these are over 300 acres in size and have many recreational possibilities.

Several extensive marsh areas exist in Crawford, Erie and Mercer Counties which are suitable for wetland developments for waterfowl hunting. The erection of waterfowl blinds in grain fields near these marsh areas presents an outstanding opportunity for income-producing recreation. Authorizations under Public Law 566 and the RC&D Act make it possible for the federal government to share with local communities and the Pennsylvania Game Commission the costs of establishing waterfowl developments in conjunction with watershed works of improvement and RC&D projects.

French Creek and its tributaries are attractive, clear, relatively unspoiled streams with sufficient summer flow that could be used for scenic float trips through Erie, Crawford and Venango Counties and hence down the Allegheny River. Overnight rest stops could be developed. It is probable that such trips would become a regional attraction. There are also excellent possibilities for shorter float trips on Oil Creek.

Along Oil Creek and the Allegheny River there are sections of the stream that would provide ideal locations for gorge-type parks featuring stream and wilderness activities including float trips, hiking, camping and nature study.

In connection with water-oriented recreational activities there are opportunities for the development of a baitfish industry, boat sales, service launching, rental and docking facilities and beach areas.

There is no limit as to the number of attractive locations where rural residences, summer homes or summer cottages could be built. When the French Creek Flood Control Plan has been completed, an extensive new area will be available for summer cottages along this creek. This development should be controlled by the enactment of flood plain zoning ordinances.

Pollution abatement programs and low flow augmentation will both aid in improving the quantity and quality of streams for fishing. It may be assumed that additional public hunting land will be purchased by the state as demand for hunting continues to increase.

Some Recreation, Fish and Wildlife Problems



There is a lack of capital for recreation enterprise development.



Sediment seriously affects fish and wildlife resources.



An inventory and appraisal of recreation, fish and wildlife opportunities is needed.

Community Environment Problems

1. Lagging land use planning and controls - Annually, 3200 acres of land are converted to urban and other community serving uses which for the most part are unplanned and uncontrolled from a county or township standpoint. This situation is evidenced by: (1) ribbon development along highways; (2) incompatible land uses such as a junk yard next to a recreational development; and (3) health hazards and public nuisances created by the lack of public water, sewer and solid waste disposal systems.

During the period 1950-1960, approximately 30,000 new homes were built within the area. A majority of these homes were constructed on land "one lot deep" along the highways. This type of development has caused traffic congestion and hazards, increased the cost of providing utilities and decreased the land values behind the ribbon.

Community development has continued with little regard for the resource limitations of soils, water and humans. Almost 80 percent of the area's soils have moderate to severe limitations for the on-site disposal of sewage. Some areas such as Harbor Creek Township in Erie County, Sugar Creek Borough and Cranberry Townships in Venango County, the Shenango Valley in Mercer County and the Pymatuning vicinity in Crawford County simply have not been able to expand water and sewer facilities to keep pace with the development.

Thus far, local people have been slow to develop and adopt effective land use controls such as zoning based on land capability or hazard, sediment and erosion control during construction and subdivision regulations. Effective land use controls are a necessity if incompatible land users are to be avoided.

These problems exist not because the area's planning commissions do not function, but because these planning commissions and their agencies are understaffed and underfunded. All counties within the project have organized planning commissions which have as a prime objective sound comprehensive planning and land use controls. However, in many instances these agencies lack public understanding and support.

2. Inadequate community facilities - As suggested in the preceeding sections many municipalities lack adequate public facilities to service their expanding populations. A prime need exists for modern water and sewer systems. Of lesser concern, but still significant, is the need for technical schools, additional college facilities and improved transportation facilities and services.

The townships of Harbor Creek (Erie County) and Sugar Creek and Cranberry (Venango County), the fringe of the city of Sharon in Mercer County and the southern tip of Pymatuning Lake in Crawford County are probably the areas most in need of expanded water and sewage systems. With few exceptions, even the most modern sewage

treatment systems within the area do not provide tertiary treatment which is essential for improving the water quality in our streams. Lack of community concern, tax base and borrowing capacity all contribute to the lack of or delay in modernization of sewage and water treatment systems.

At the present, discussions are under way in the Erie metropolitan area over where the city should obtain an additional water supply, Lake Erie or impoundment sites on the bluffs. Several studies have been made to weigh the advantages, disadvantages, and feasibility of each proposal. And yet, with all these studies, no action has been taken which will provide safe water to a rapidly expanding suburban area.

High school dropouts are of great concern to the residents of the area. Employment opportunities for these dropouts are very limited in comparison to those of the high school or college graduate. Although the numbers vary from school system to school system and from year to year, estimates indicate that there is an average of 1,000 dropouts per year. Expansion of vocational technical schools and programs would increase employment opportunities for many of these dropouts.

Although there are many colleges located within the area, college graduate training facilities and programs are very limited. Many local people feel this type of facility is also needed to support the industrial research needs of the region.

Although the area is bisected with new Interstate Route 79, 80 and 90, there is a need for further highway improvement. This is especially true in connection with Routes 6 and 8 in Erie County, and Routes 6, 8 and 322 in Venango and Crawford Counties.

3. Inadequate solid waste disposal and vector control - With the area's population approaching 600,000 solid waste production is estimated to be in excess of 1500 tons per day or 548,000 tons per year. Presently, the bulk of this waste is being disposed of in dumps and by open burning. Needless to say, such disposal techniques are unsanitary, unsafe and create breeding places for flies, rats and other potential disease carrying organisms. Suitable sites for sanitary land fills are difficult to locate because of soil and geological hazards. Other problems affecting solid waste disposal are costs of collection, hauling distance and the lack of a cooperative effort between municipalities. No municipality wants a sanitary land fill operating within its boundaries.

There is a need for additional rat control in the cities as well as the rural areas. Health and economic implications are both involved with this problem.

Because of the large number of water impoundments, lakes and marshes throughout the area, the mosquito-breeding potential is high.

Along with this potential there is always the risk of disease transmission.

4. Unsound housing - One-fifth of the area's housing units are considered to be unsound; that is, they lack modern plumbing, electricity and the other items considered essential to the health and welfare of the occupier. This problem is not limited to just the cities and urban areas. In fact, the majority of it exists in the rural areas. Besides being a safety and health hazard to the dweller, these houses are a blight on the rest of the community. Adjoining property values decline and the municipal tax base is lowered.
5. Poverty - Although the definition of poverty is open to debate, the 1960 U. S. Census indicates that almost 18 percent or 22,364 families within the project area had gross family incomes of less than \$3,000 per year. A large portion of these are estimated to be farm families. Of 7,386 farms, 63 percent had gross incomes of less than \$5,000 and 3,454 or 47 percent had less than \$2,000 in 1964. A reasonable estimate of the number of farm families with a poverty level of income would be 3,854 or 18 percent of the 1960 total. Although this data is dated, it indicates the relative proportions of the problem.
6. Urban erosion and sediment damage - Annually, construction activities around the urban areas - especially Erie, Sharon and Meadville - strip many acres of all vegetation and topsoil. In most instances, these bare areas are exposed to the elements for anywhere from several months to a year or more. During this period, these unprotected areas are subjected to severe erosion which produces sediment that clogs drainageways, blocks culverts and ditches and pollutes streams. These sediment damages may well have an annual price tag of several hundred thousand dollars.
7. Air pollution - Air pollution is a serious problem around the Sharon-Farrell, Erie and other scattered communities. Although many of the contributing industries and businesses are installing air pollution control devices the problem is still increasing in magnitude. Air pollution comes from many sources; the primary ones within this area are gasoline fueled motor vehicles, steel and power industries and open burning. Besides being a hazard to public health, residues from this pollution damage vegetation, the exterior of buildings and automobiles.
8. Blighted community appearance - Throughout the area are many "intangibles" which when taken together detract from the natural beauty. They are intangibles only in the sense that alone they are unnoticed but in numbers they are a blight. The single billboard along a rural highway may not be considered a blight by itself, but what is the effect when 10, 15 or 20 more are added? Other forms of blight are more apparent - unconcealed junk yards, surface mines, dilapidated buildings, open dumps and littering. Because many local citizens believe their future success and happiness is tied to making

this area an attractive place to live, work and play, this problem takes on important significance.

Opportunities for Improvement of Community Environment

Opportunities for development, improvement and protection of the project area's community environment are many fold. The limits are as broad as the local citizen's imagination and perception. Some of the more significant items include:

1. Taking full advantage of federal and state programs for technical and financial assistance.
2. Completing and implementing regional, county and municipal comprehensive land use plans, (including land use controls).
3. Strengthening and expanding the educational opportunities for all citizens.
4. Developing inter-governmental cooperation compacts for constructing public water, sewer and solid waste disposal systems.
5. Expanding the enforcement of state and local regulations concerned with public health and community appearance.

There are many programs which provide technical assistance, grants and loans for the planning and construction of solid waste disposal systems, water and sewer systems, educational facilities and for control of air pollution, rats and insects. A comprehensive listing of these and many other applicable, federal and state programs is contained in a series of catalogs prepared by the office of Economic Opportunity and the Pennsylvania Department of Community Affairs. These publications are available in the local RC&D Project Office and in most public libraries. In many instances a federal or state grant or loan will make the difference between project success or failure.

Early completion and implementation of comprehensive land use plans will eliminate many of the problems connected with uncontrolled land use. Such a plan based on soil surveys and other resource data and backed by sound zoning and subdivision regulations would minimize problems of strip development congestion, incompatible land use, urban erosion and sediment and inadequate public facilities.

Educational opportunities can be strengthened and expanded by making more efficient use of existing facilities and personnel, scheduling of night classes and summer courses and the addition of a quality vocational technical course. The latter would be designed to hold the potential high school dropout and retrain adults which would broaden the employment opportunities for many.

Communities or townships can join together in the operation of schools, sanitary land fills, garbage collection and many other public service areas. Such cooperation would reduce costs by eliminating duplicate

facilities, improve efficiency of operation and possibly provide better service because of economies in scale of operation. For example, one land fill site properly located and operated could serve five to ten municipalities far more efficiently and effectively than five to ten individual ones.

Improved and expanded enforcement of existing state and local health and "quality of environment" regulations could eventually reduce many of the problems associated with unsound housing, rat control, air pollution, sedimentation and community blight. Sound, equitable enforcement requires thoroughly trained people who are free of political reprisal.

Some Problems With the Community Environment



Land use controls are
lagging - - -



Additional water and sewer
lines are needed - - -



Blighted landscape - - -

THE PROJECT PLAN

- Sponsors' Objectives
- Project Measures
- Project Measure Status
- Project Measure Map
- Sponsorship

The Project Plan

Herein is our revised plan for action. First, we studied and analyzed the problems and opportunities of the project area. Then we, the sponsors, adopted project objectives which we felt would improve, develop and protect our resource base for the future. Finally, our executive council reviewed and studied the merits of over 250 proposals developed by local study committees and others to determine if they helped to meet the established objectives. If they did, the proposal was adopted as a project measure. Of course, not all proposals passed the test - some were tabled for future study and some were dropped - many were adopted.

Adopted project measures were placed into one of four groupings based on the primary purpose of the measure. Group 1 contains those measures related to THE DEVELOPMENT OF OUR AGRICULTURAL AND WOODLAND RESOURCES. Group 2 contains those measures for THE DEVELOPMENT OF OUR WATER RESOURCES. Group 3 contains those measures for THE DEVELOPMENT OF OUR OUTDOOR RECREATION, FISH AND WILDLIFE RESOURCES. Group 4 contains those measures aimed at THE IMPROVEMENT OF OUR COMMUNITY ENVIRONMENT.

By placing the measures into one of these four groups, we have attempted to show that our objectives cannot be reached by the completion of a single measure but only by completion of a whole series of measures within the grouping. Within each grouping the measures are arranged in two subsections: first are those measures which were carried forward from our 1964 plan; second are those measures added since 1964. Our original measures were updated and revised as needed to reflect our progress.

Each measure has been assigned a measure number and a name. Immediately following the measure name is a coding which categorizes the measures by type for record keeping purposes. (See Appendix 1.) Where applicable, a site number has been assigned to a project measure so it can be located on the Project Measure Map.

Our revised plan is as complete as possible, however, it is flexible; that is, we will continue to add and delete measures to keep pace with our changing situation.

OBJECTIVES

The primary objective of Resource Conservation and Development Projects is threefold -

To promote community betterment.

To stimulate economic development and create new jobs.

To improve the quality of the environment.

To help guide local study committees and our executive council, we have established more specific objectives within each study area. These objectives will guide our future decisions and help guide others engaged in the field of resource development. These objectives also provide the thread which ties together individual project measures into a plan of action.

- FOR OUR AGRICULTURE AND WOODLAND RESOURCES

1. Increase farm incomes

- by identifying and preserving for agricultural use those high potential soil areas that are large enough to support efficient agriculture.
- by accelerating conservation planning and treatment, and technical assistance in these areas.
- by identifying for farm owners resource opportunities which will lead to the development of other income producing enterprises, including recreation.
- by expanding educational programs that can improve the management skills of farm operators.

2. Promote compatible uses for the woodland which will increase incomes, provide recreation or enhance fish and wildlife.

- by developing markets for low grade wood materials.
- by accelerating technical forestry assistance to woodland owners.
- by preserving selected woodlands for open space, recreation and natural beauty.

3. Support land use planning and regulation which are based on the resource limitations for use

- by providing accelerated technical assistance to local municipalities for developing workable land use plans and regulations.

- by identifying and preserving natural, scenic, historical and open space areas.
- by minimizing the effects of erosion and sedimentation and agricultural, domestic and industrial waste.

- FOR OUR WATER RESOURCES

Improve and protect water resources

- by reducing flooding hazards.
- by minimizing stream and lake pollution.
- by assisting municipalities delineate and limit the use of flood plains.
- by developing water resources for recreation, fish, wildlife, domestic and industrial supplies and rural fire protection.

- FOR OUR OUTDOOR RECREATION, FISH AND WILDLIFE RESOURCES

Improve and develop outdoor recreation opportunities and fish and wildlife populations

- by developing water-oriented recreation.
- by locating and developing additional sites for popular forms of outdoor recreation such as fishing, hunting, hiking and picnicking.
- by developing more open space areas for parks, playgrounds and nature study areas near growth centers.
- by improving the quality of environment for waterfowl, fish and upland game.

- FOR OUR COMMUNITY ENVIRONMENT

Improve the quality of environment for all citizens

- by securing and/or developing programs to eliminate inadequate housing.
- by expanding medical and dental facilities in rural areas.
- by beautifying roadsides and streambanks.
- by providing educational programs for all citizens to improve their employment opportunities.

- by assisting communities in identifying sources of financial and technical assistance for reducing pollution and improving public facilities such as water and sewers.



"- - - To make the area a better place to live, work and play - - -"

PROJECT MEASURES

- FOR THE DEVELOPMENT OF OUR AGRICULTURAL AND WOODLAND RESOURCES

A. Original Measures (revised)

1. ACCELERATED SOIL SURVEY (F-1)

The purpose of this measure is for the rapid completion of a medium intensity soil survey and interpretations for the project area. To date, the soil survey has been completed in all counties except for a small portion of Crawford County. The Soil and Water Conservation Districts and local planning agencies are the sponsors of this measure.

2. ACCELERATED CONSERVATION PLANNING (F-1)

The purpose of this measure is to provide accelerated conservation planning assistance and priority consideration for developing conservation plans which will help implement the measures contained in this plan. Seventy of the project measures, contained herein, require Soil Conservation Service technical planning assistance for complete and sound implementation. This measure is sponsored by the four Soil and Water Conservation Districts.

3. RESOURCE PLANNING ASSISTANCE IN AREAS OF RAPIDLY CHANGING LAND USE (F-1)

Technical planning assistance is required from the Soil Conservation Service by local units of government and their agents to facilitate the implementation of 56 of the project measures contained herein. This assistance should be provided at an accelerated rate based on priorities established by the Executive Council and local Soil and Water Conservation Districts who are the sponsors of this measure.

4. LAND TREATMENT (F-7)

This measure requires accelerated assistance from the Soil Conservation Service to establish the needed conservation practices resulting from measures 2 and 3. Approximately 85 of the project measures, contained herein, require land treatment assistance. Sponsors of this measure are the Executive Council and local Soil and Water Conservation Districts.

5. ACCELERATED STUDY FOR THE UTILIZATION AND MARKETING OF FOREST PRODUCTS (A-8) - completed

A forest drain study was completed by the Pennsylvania Bureau of Forestry. It indicated to the sponsors that sawtimber was being overcut. Consequently, the sponsors are not encouraging additional plants that utilize this resource to locate in the area.

6. AN EDUCATION PROGRAM TO DEVELOP A BETTER PUBLIC IMAGE OF THE FARMER - cancelled

See measure number 208.

7. EDUCATIONAL ASSISTANCE TO FARMERS IN EFFECTING THE LEGAL AND ORDERLY TRANSFER OF FARM FROM FATHER TO SON - cancelled

See measures 97 and 100.

8. AN EDUCATIONAL PROGRAM TO ENCOURAGE THE DEVELOPMENT AND USE OF MORE EQUITABLE LEASING AGREEMENTS - cancelled

See measures 97 and 100.

9. AN EDUCATIONAL PROGRAM RELATING TO FARM OPERATIONS - cancelled

See measure 100.

10. A STUDY RELATING TO THE POSSIBILITIES OF GROWING SPECIALIZED CROPS - cancelled

See measure 98.

11. AN EDUCATIONAL PROGRAM TO SHOW THE VALUE OF IMPROVED FARM MANAGEMENT - cancelled

See measures 97 and 100.

12. AN EDUCATIONAL PROGRAM TO SHOW THE VALUE OF EFFICIENT FARM BUILDINGS - cancelled

See measures 97 and 100.

13. AN EDUCATIONAL PROGRAM TO ENCOURAGE THE WIDER USE OF A COMPLETE SOIL TESTING PROGRAM - cancelled

See measures 97 and 100.

14. AN EDUCATIONAL PROGRAM TO ACQUAINT COUNTY RESIDENTS AS TO THE USE AND VALUE OF THE SOIL SURVEY REPORT (F-18)

This proposal is for the acceleration of an educational program to focus attention on the use of the county soil survey report. Soil survey reports are now available for Erie and Mercer Counties and the preparation of a report is under way in Venango County. The project sponsors have asked the Co-operative Extension Service to provide this assistance.

B. Measures added since 1964

88. SURFACE MINE EVALUATION (D-8)

There is a need to determine soil site conditions on existing strip mined areas in order to carry out planting and restoration projects. This evaluation has been completed on the Scrubgrass Watershed. It needs to be done on East Sandy Creek, Hemlock Creek, Wolf Creek and several other small streams. Technical assistance is provided by the Pennsylvania Fish Commission, Soil Conservation Service and colleges of the area. This project is sponsored by the Mercer and Venango Soil and Water Conservation Districts and the various watershed associations. This measure is related to measures 105, 107, and 187.

89. ROADBANK STABILIZATION (D-7)

Over 500 miles of municipal roadbanks in the project area need planting to reduce erosion. These banks are eroding rapidly creating sediment problems in road ditches, streams and lakes. Conservation plans are being developed for these areas. Funds are being provided by RC&D and local units of government. A 5-year project measure work plan has been completed to carry out this measure.

90. ESTABLISH LAND IMPROVEMENT CONTRACTORS' ASSOCIATION (E-7) - completed

A Land Improvement Contractors' Association has been organized within the state to improve and promote the establishment of conservation practices. Major project area contractors are actively participating in this organization.

91. PROMOTE MINIMUM TILLAGE (E-7)

The agricultural committees in the project area have indicated the need to promote minimum tillage as a conservation measure. The Pennsylvania State Agriculture Extension Service is conducting meetings on this practice. There are a number of farmers interested and using this measure, but usage needs to be more widespread. This project measure is sponsored by the Soil and Water Conservation Districts of the project area. Technical assistance is being provided to individual landowners for this practice.

92. STREAMBANK STABILIZATION - OIL CREEK (D-7) - completed

A stream improvement project has been completed on Oil Creek in Titusville by the Pennsylvania Department of Environmental Resources.

93. MARKETING POLE TIMBER (A-11)

Timber drain studies indicate that there is a surplus of pole size timber in Venango County. The Pennsylvania Bureau of Forests and Waters and the Venango Industrial Development Committee are working jointly to locate markets for this material.

94. FORESTRY EDUCATION AND INFORMATION PROGRAM (F-18)

A program is needed to provide forestry education and information to private woodlot owners and the general public. This project would create general public awareness of forestry resource opportunities through an accelerated educational and informational program.

Some assistance is now provided by the Agricultural Extension Service and the Pennsylvania Department of Environmental Resources. These efforts would be expanded and RC&D participation may be expected.

The Erie County Forestry Committee is sponsoring the proposal. It will be initiated in Erie County and expanded to other areas as the opportunity arises.

95. AGRICULTURAL WASTE DISPOSAL (E-19)

There is a need to provide technical and financial assistance to farmers in disposing of agricultural wastes in a safe and legal manner. All the agricultural agencies should combine their efforts to work with local producers on this problem. The agricultural committees of the project area have sponsored this measure.

96. PRESERVATION OF FLOOD PLAINS, NATURAL WATERWAYS AND HILLSIDES (E-8)

A study of Venango County is needed to delineate areas which should be preserved in their natural state. Soil survey maps and other pertinent information will be used in making this determination. Eventually, an ordinance will have to be passed by the Venango County Planning Commission to preserve the delineated areas. The Venango County S&WCD is joining with the planning commission in sponsoring this project.

97. EDUCATIONAL ASSISTANCE TO FARMERS IN MAKING FARM DECISIONS (F-18)

Both group and individual help should be given to area farmers in the economics of farm operation to assist them in farm decision making and business operation skills and for more effective enterprise management. This will include: farm business analysis, record keeping, linear programming, leasing and renting, father-son arrangements, estate planning, and organization of land, labor and capital. The Cooperative Extension Service has been and will continue to conduct an educational program to assist in this effort.

98. NEW OPPORTUNITIES IN AGRICULTURAL ENTERPRISE (F-18)

The agricultural community should constantly be alert for opportunities of new farming enterprises. This might include livestock, livestock production and/or crop production in either the agronomic or horticultural field. All aspects of production and marketing should be studied. Cost data and linear programming aspects should be critically analyzed. Where feasible, demonstrations could be established.

99. AN EDUCATIONAL PROGRAM TO SHOW THE VALUE OF EFFICIENT FARM BUILDING (F-18)

Both group and individual planning assistance should be provided to point out to area farmers the value of farm buildings designed for low unit cost and maximum labor efficiency. The relationship of these buildings to the present and future operation of the total farming unit is essential.

Farm improvement loans may be made by the Farmers Home Administration and other credit institutions for those needing credit. The Cooperative Extension Service has been requested to assist the sponsors in the development of this program.

100. AN EDUCATIONAL PROGRAM TO ENCOURAGE WIDE USE OF MODERN MANAGEMENT TOOLS TO IMPROVE FARM INCOME (F-18)

Educational programs should be conducted to acquaint and encourage more farmers to use the latest management tools to assist them in their farm operation. This includes: DHIA, sire analysis, performance testing, carcass evaluation, forage testing, soil testing, foliar analysis, soil survey interpretation, farm record, and linear programming. Both the gathering of such information and the analysis of the information in the operation of the farm business is most important. The Cooperative Extension Service has been and will continue to assist in these efforts.

101. FORESTRY TECHNICIAN (F-1)

The Penn Soil Executive Committee endorses a proposal of the Forestry Committee to place a forestry technician in the project area. This would release the professional foresters to work with more people on the wise use of our forest resources.

102. SEDIMENT CONTROL IN HARVEST CUTTING (E-7)

There is a need to work with landowners and lumbermen in reducing sediment during the cutting of trees. This should become a part of the contract to remove the timber. Conservation practices need to be used especially on logging roads and on stream crossings. This project measure is sponsored by the Forestry Committees.

Some Examples of Project Measures



More effective use of some cropland is made by growing specialty crops.



Critical areas are being stabilized and reclaimed.



Pastures are being improved.

- FOR THE DEVELOPMENT OF OUR WATER RESOURCES

A. ORIGINAL MEASURES (revised)

15. WATERSHED PROTECTION AND FLOOD PREVENTION PL-566 PROJECTS
(C-5) SITES 1-6

This measure sponsored by the Soil and Water Conservation Districts and the County Commissioners of the project area is for the acceleration and rapid completion of the 6 existing PL-566 watershed projects as listed below:

- a. Saul-Mathay Watershed, Mercer County, Site 1
- b. Mill-Run Watershed, Crawford County, Site 2
- c. Wolf Creek Watershed, Mercer and Venango Counties, Site 3
- d. Little Shenango River Watershed, Crawford and Mercer Counties, Site 4
- e. Oil Creek Watershed, Crawford, Erie and Venango Counties, Site 5
- f. Sandy Creek Watershed, Crawford and Mercer Counties, Site 6

See Table 1, Section II for current status of each watershed project.

16. FRENCH CREEK FLOOD CONTROL (C-5) SITES 7-9

Project sponsors have adopted this measure for accelerating the completion of 3 U. S. Army Corps of Engineers' flood control structures - Union City, Site 7; Woodcock Creek, Site 8; and Muddy Creek, Site 9. Construction is underway at the Union City and Woodcock sites. Erie and Crawford Counties are developing recreation facilities at these sites with technical assistance of the U. S. Army Corps of Engineers and the Soil Conservation Service.

17. NEW WILMINGTON DEVELOPMENT (C-5) SITE 11

This measure is for the development of a 500 acre (approximate) impoundment on the West Branch of Neshannock Creek about 2 miles north of New Wilmington by private sources. Geological investigations have been completed by the Soil Conservation Service but an estimated \$300,000 is needed for further development of the site. The project sponsors and several private groups are encouraging the development of the site by 1974.

18. SENECA LAKE - cancelled

19. LAKE-SIDE HOUSING DEVELOPMENT (B-6) SITE 14 - completed

A 7-acre lake has been completed by a private group. Excessive seepage from the impoundment has delayed further site development. Originally, 25 lake-front homes were planned. McClelland and Jervis and Associates sponsored this measure.

20. OTTER CREEK DEVELOPMENT - cancelled21. CONNEAUT LAKE NUMBER 2 - cancelled22. CUSSEWAGO LAKE (C-6) SITE 16

Originally, this measure was for the completion of the U. S. Army Corps of Engineers' flood control structure of approximately 7,100 surface acres at the Denny School Site, 4 miles northwest of Meadville. Since then the U. S. Army Corps of Engineers have dropped their plans for this site in favor of a less costly plan that would provide greater protection to Meadville. A private developer has made some improvements on this stream in the meantime. The project sponsors have asked that a smaller impoundment be considered and investigated with the U. S. Army Corps of Engineers within the next 5 years.

23. CRANBERRY LAKE - cancelled24. ALLEGHENY RIVER FABRI - cancelled25. CHUBB RUN FLOOD PROTECTION - cancelled26. SUGAR LAKE IMPROVEMENT - cancelled27. SPARTANSBURG LAKE (C-6) SITE 17

Originally, this measure was for the enlargement and deepening, by the Pennsylvania Department of Environmental Resources, of Clear Lake near Spartansburg in Crawford County. If improved, the lake would provide better fishing and boating opportunities. Since then, the Pennsylvania Department of Environmental Resources has turned down this project. Project sponsors are now exploring other sources of funding for this measure.

28. LITTLE SUGAR CREEK LAKE - cancelled29. A STUDY OF IMPOUNDMENT DEVELOPMENT IN CONJUNCTION WITH HIGHWAY CONSTRUCTION - cancelled30. LAKE HANNAVILLE - cancelled31. CROSS CREEK LAKE - cancelled

(Water Resources cont'd.)

B. MEASURES ADDED SINCE 1964

103. LAKE LATONKA (B-3) SITE 43 - completed

A 270-acre lake has been constructed to serve as the base for a water-oriented second home community. An economic impact study has been completed by the Penn Soil Executive Committee and the Economic Research Service.

104. OIL MILL RUN (C-6) SITE 44

A feasibility study is needed to determine feasibility of developing a multiple purpose site to prevent flooding in Mercer Borough and to provide recreation opportunities. The site is one of the original Neshannock Creek Watershed proposed impoundments. This single site may be eligible for financial assistance through the RC&D program. At the present, this measure is sponsored by the Mercer County Soil and Water Conservation District. Additional local sponsorship is needed to complete this measure.

105. PRAIRIE RUN TRIBUTARY ON EAST SANDY CREEK (C-6)

This stream is polluted by mine acid. A watershed association has been established to work on this problem. A comprehensive study of pollution sources needs to be completed by the Department of Mines. The stream is no longer stocked with trout. Local people feel that this stream can be restored. This measure is sponsored by the Venango County Soil and Water Conservation District.

106. CONNEAUT LAKE - THATCHER RUN - cancelled

107. POLLUTION ABATEMENT - WOLF CREEK (D-19)

There is a need to seal old coal mines and stabilize strip mine areas in this watershed. The Pennsylvania Bureau of Mines has contracted with a private consultant to identify and monitor sources of pollution. They will also provide information aimed at eliminating pollution within the watershed. This project is sponsored by the Mercer Soil and Water Conservation District and the Pennsylvania Bureau of Mines.

108. STUDY OF STRIP MINE POOLS (B-8)

This study is being carried out by Grove City College in cooperation with the Mercer County Soil and Water Conservation District. The study will provide basic information on the water and aquatic life. Technical papers have been prepared and presented by the Biology Department of the college at various technical conferences.

109. COUNTY STREAM MAP - completed

County stream maps which show the location of streams and quality of fishing water have been completed for Crawford and Venango Counties. County sportsmen groups and others assisted in carrying out this measure.

110. FRENCH CREEK WATERSHED ASSOCIATION (B-6)

This watershed association has been organized. Sponsorship and financial aid were given by the Soil and Water Conservation Districts in Erie and Crawford Counties. The watershed association is actively working on pollution problems and general stream improvement in the watershed.

111. WEST MEAD TOWNSHIP LAKE (B-13) SITE 45

A pond is proposed for recreation and fire protection. Gravity flow from the pond would provide a source of water to protect a number of homes. The lake would be put in with private funds. The project is sponsored by the Crawford County Soil and Water Conservation District.

112. SHENANGO RIVER WATERSHED ASSOCIATION (B-6)

This proposal calls for the organization of a watershed association on the most polluted river in northwest Pennsylvania. The Mercer County Council of Sportsmen attempted to organize this association, but because of lack of interest from local citizens, it was not successful. There is a real need to clean up the pollution problems in this watershed. An educational program needs to be conducted with the citizens' groups of the area.

113. NESHANNOCK WATERSHED ASSOCIATION (B-6)

This project is sponsored by the Mercer County Soil and Water Conservation District and the Mercer County Commissioners. The watershed association has been organized to protect and improve the resources of this watershed and is in the process of determining pollution sources within the watershed. Grove City College is providing leadership to the high schools in the stream monitoring program. This project is related to project measures 115, 118, and 132.

114. SLIPPERY ROCK WATERSHED ASSOCIATION (B-6)

A watershed association has been formed primarily to control pollution within the watershed. Mercer County Soil and Water Conservation District has a representative on this association. This project is interrelated with the project on Wolf Creek numbers 5C, 107, and 172.

115. NESHANNOCK CREEK (C-6)

The U. S. Army Corps of Engineers is studying two sites in the Neshannock Creek Watershed to be developed for low flow augmentation. Local groups have indicated an interest in multiple purpose development of these sites.

116. HEMLOCK CREEK (B-19)

This project is located in northern Venango County. There is a need to provide pollution abatement and general stream cleanup. The Venango County Soil and Water Conservation District will take the lead in organizing a watershed association.

117. PINE RUN - SHARON (C-19)

This small stream is presently causing flooding damage within the city of Sharon. It also needs a general cleanup. A preliminary study needs to be completed to determine future development. The project is sponsored by the city of Sharon and the Mercer County Soil and Water Conservation District.

118. PINE RUN IMPROVEMENT - NESHANNOCK (D-6)

The purpose of this project is to stabilize critical sediment producing areas, reduce pollution in the stream, and improve fishing conditions. A special REAP project has been established in this county to provide financial assistance to landowners adjacent to the stream. The project is sponsored by the Pardoe Sportsmen Club, the Mercer County Soil and Water Conservation District, and the Pennsylvania Fish Commission with assistance provided by the Biology Department of Grove City College.

119. SAUL-MATHAY STREAM IMPROVEMENT (C-6) SITE 46

Debris has built up in this channel to the point that it is creating a potential flood hazard in Greenville. This channel should be cleared, banks seeded, and maintained in an open condition. Flood plain zoning should be passed to prohibit future encroachment on the channel. This project is sponsored by the Borough of Greenville, Hempfield Township Supervisors, Mercer County Commissioners and Mercer County Soil and Water Conservation District.

120. STREAM MONITORING (B-8)

The high schools and colleges in the Erie area are setting up a stream monitoring program. Tests will be made on aquatic life, pollutants, and chemical content. Teachers and professors will develop their own projects based on suggestions of the Erie Water Committee. It is anticipated that existing equipment can be used, but there may be a need for additional

equipment as the study progresses. This project is sponsored by the Erie Soil and Water Conservation District.

121. MULTIPURPOSE RESERVOIR EAST BRANCH LEBOEUF CREEK (C-6) SITE 47

The purpose of this project is to study the feasibility of developing a multipurpose reservoir on LeBeouf Creek, Greene Township, Erie County. Water development for recreation, including boating, fishing and waterfowl, and water supply, need to be reviewed. This project is sponsored by the Summit Township Water Authority and Greene Township Supervisors.

122. UNION CITY RECREATION RESERVOIR (C-6) SITE 48

This project calls for the establishment of a 580-acre permanent pool and recreational complex at the Union City Reservoir. Congress will need to appropriate the funds to the U. S. Army Corps of Engineers to establish this pool. Erie County Commissioners will contribute to the development costs. The facility will be operated and maintained by the Erie County Park and Recreation Board. It is estimated that this project will cost the U. S. Army Corps of Engineers 12.5 million and the Erie County Commissioners 2.5 million. The Penn Soil Executive Committee has endorsed this project at local hearings. This measure is related to measure 6.

123. SIXMILE CREEK RESERVOIR - HARBOR CREEK (C-6) SITE 49

The Harbor Creek Supervisors are interested in developing the reservoir on Sixmile Creek south of Route 430 and east of Route 531 for recreation, water supply, and limited flood protection. They have filed an "Intention of Taking" which prohibits sale of involved property without township approval. Some preliminary recreation and engineering studies have been completed. A comprehensive plan needs to be developed for this project. Technical and financial assistance are needed.

124. PINE CREEK STREAM IMPROVEMENT - TITUSVILLE (C-4)

Recent construction on this stream has reduced its value as a fishing stream. Local residents are interested in making a study of the stream to determine how it could be restored. The project is sponsored by the Crawford County Soil and Water Conservation District and local conservation groups.

125. HORSE CREEK WATERSHED RESTORATION (D-19)

This stream with its tributaries of Slate Run and Wolf Run is now badly polluted from the surface and deep mining. This stream joins the Allegheny River at Rockmere in Venango County. The local Soil and Water Conservation District feels that the stream can be restored. They will work to organize a watershed association to clean up the stream.

126. HALLS RUN (D-19)

This stream enters East Sandy just east of Route 257 in Venango County. It is now polluted with mine acid. The Venango County Soil and Water Conservation District will attempt to clean up the stream and improve fishing and recreational use. The Department of Mines and other agencies will be requested to help with this project.

127. STREAM SEDIMENT STUDY - CRAWFORD (D-8)

The Geology Department of Allegheny College in Crawford County is studying the effects of sedimentation on Mill Run, Woodcock, French Creek, and other small streams near highway Interstate 79. This will be the base study to determine what can be done to reduce sedimentation of the streams. The Crawford County Soil and Water Conservation District is co-sponsoring this project.

128. YELLOW CREEK RESTORATION (D-19)

The Mercer County Soil and Water Conservation District and the Biology Department of Grove City College are cooperating on a restoration study project on Yellow Creek. This stream which flows through Jackson Center is highly polluted with mine acid drainage. Sources of pollution are being inventoried so that a restoration program can be carried out.

129. TWOMILE RUN LAKE (C-3) SITE 50

Construction is under way on a 140-acre lake to serve as a base for the county park. Funds are being provided by USDA, the Pennsylvania Department of Commerce, and local funds. A maximum RC&D-FHA loan has been secured by the Venango Recreation Authority. This project is sponsored by the Venango County Commissioners and the Venango Recreation Authority and is directly related to project measures 144, 203, and 204.

Some Examples of Project Measures for the Development of our Water Resources



Many measures are aimed at the improvement of water quality.



Many flood control projects (PL-566) are completed or under way.



Most water development includes multiple use benefits.

- FOR THE DEVELOPMENT OF OUR OUTDOOR RECREATION, FISH AND WILDLIFE RESOURCES

A. ORIGINAL MEASURES

32. CROOKED CREEK WATERFOWL DEVELOPMENT (C-4) SITE 10 - completed

A waterfowl marsh of about 400 acres has been completed by the Pennsylvania Game Commission. This development is adjacent to a multiple purpose flood control structure Site 4 (see measure 15).

33. ERIE NATIONAL WILDLIFE REFUGE (C-4) SITE 15

This measure provides for the completion of 23 low dams on the Erie National Wildlife Refuge located 8 miles east of Meadville. The U. S. Fish and Wildlife Service has acquired an additional 5,000 acres known as the Seneca Area, but lack of funds for development has slowed down this development. Refuge development will be based upon soil information and a conservation plan which is currently being prepared for the area.

34. SUGAR CREEK RECREATION AREA - cancelled

35. WATERFOWL MARSH DEVELOPMENT (C-4) SITE 18

This measure is for the development of a large marsh located 3 miles east of Cambridge Springs on Muddy Creek in Crawford County. This site is in the process of being acquired by the U. S. Department of Interior as a part of the Seneca tract (see measure 33).

36. WOLF CREEK WATERFOWL MARSH DEVELOPMENT - cancelled

37. WILDLIFE MARSHES (C-4) SITES 19

This measure provides for the development of 6 waterfowl impoundments by the Pennsylvania Game Commission and/or the U. S. Fish and Wildlife Service. One site is at Conneaut Outlet, two on Little Sugar Creek, one at Wade Swamp, one on Spring Creek and one on Brandy Run. Project sponsors are currently working with the above mentioned agencies on this measure. The Conneaut Outlet site is ready for bids.

38. PYMATUNING STATE PARK (B-3) SITE 20

The purpose of this measure was for the expansion and improvement of a state park on Pymatuning Lake. At the present, park construction is under way and a beach and camping area is already completed. Development, construction and operation of these facilities are carried out by the Bureau of Parks, Pennsylvania Department of Environmental Resources.

39. SHENANGO RESERVOIR RECREATIONAL AREA (B-3) SITE 21

This measure provides for the development of five recreation areas in conjunction with the Shenango River flood control project of the U. S. Army Corps of Engineers. To date, the YMCA has developed one recreation area and the U. S. Army Corps of Engineers has opened two areas to the public. The Pennsylvania Game Commission is also in the process of developing a 3,000-acre marsh at the upper end of the reservoir. The project sponsors fully support this measure and are encouraging further recreational development around this reservoir.

40. VACATION BROCHURE (B-18) - completed

Venango County has developed a new vacation brochure. Now all counties have new or revised brochures which indicate some of the new recreational developments and attractions that are in operation. Project sponsors now hope to work with the Regional Planning Commission to develop one brochure for the project area.

41. MARKING OF GEORGE WASHINGTON TRAIL (B-9)

The Franklin Museum Corporation and project sponsors originally proposed to mark a trail traveled by Lt. George Washington during the French and Indian War. Since then, the Boy Scouts have marked a portion of this historic trail in Venango County, but it also needs to be marked in Crawford and Erie Counties.

42. TOURIST PROMOTION AGENCY (B-3)

Originally the purpose of this measure was to encourage stronger financial and public support for these relatively new agencies in each county. Since then, the tourist promotion agencies have gained much support. All agencies have published new brochures. The Crawford County agency, in cooperation with the Cooperative Extension Service recently conducted a training session for waitresses. Project sponsors plan to continue to encourage increased support for these agencies because they are a key factor in bringing in more vacationers and tourists.

43. PINE GROVE GOLF COURSE EXPANSION (B-3) SITE 25

Originally this measure was for the expansion of the Pine Grove Golf Course which is located one mile east of Grove City in Mercer County. Since then, a club house has been completed and expansion is under way. The Soil Conservation Service is providing assistance for an impoundment in conjunction with the expansion. This measure is supported by the project sponsors and is being developed by private sources.

44. GOLF COURSE CONSTRUCTION (B-3) SITE 26 - completed

A 9-hole golf course northeast of Greenville and adjacent to Site 4 (see Measure 15) has been completed. Technical planning assistance was provided by the Soil Conservation Service and private sources.

45. SANDY LAKE STATE PARK (MAURICE GODDARD PARK) (B-3) SITE 27

This measure is now well under way. The Maurice Goddard Park is in the process of development around a 1,740-acre PL-566 Sandy Lake site in Mercer County. (See Site 6, Measure 15.) Sponsors of this project measure include 15 state and local agencies.

46. OIL CREEK VALLEY STATE PARK (B-3) SITE 28

This measure sponsored by the local Soil and Water Conservation District, the Pennsylvania Department of Environmental Resources, and others was for the creation of an 8,676-acre gorge-type state park. This park located along the southern edge of Titusville would include the historical ghost town of Pithole City within its boundaries. To date, a director has been hired and land acquisition is under way.

47. MERCER COUNTY RECREATION DIRECTOR (B-19)

A recreation authority and a full time recreation director is proposed by the Recreation Study Committee for Mercer County. Since the original proposal was made, a recreational study committee member reviewed the proposal with the county commissioners and was given a favorable hearing.

48. WINTER SPORTS CENTERS (B-3) SITES 29

This measure is for the development of three winter sports centers: one in southeastern Mercer County, one in northwestern Mercer County, and one in northern Venango County. Since this original proposal was made, there has been considerable interest and activity in snowmobile trail development. The Recreation Study Committee is hopeful of incorporating these trails in the winter sport centers since this activity is gaining widespread popularity.

49. SHOOTING PRESERVE (B-4) SITE 30 - completed

Using Soil Conservation Service technical assistance, a private operator has developed and expanded a shooting preserve in southeastern Mercer County.

50. ALLEGHENY GORGE STATE PARK (B-3) SITE 38

A gorge-type state park is proposed on the Allegheny River between Franklin and Emlenton in Venango County. Since the original proposal, the Pennsylvania Department of Environmental Resources has designated a 15,000-acre park for this area. Approximately 12 million dollars has been earmarked for purchase and development of the park and hearings have been held on land acquisition.



Some project measures are aimed at providing quality facilities.

Other project measures are for the protection of historical sites.



RECREATION, FISH, AND WILDLIFE



And still other measures are for the protection and development of wildlife resources.

(Recreation continued)

B. MEASURES ADDED SINCE 1964

130. GREENVILLE PARK DEVELOPMENT (B-3) SITE 51

This is an established park operated by the Greenville Recreation Authority. It has provided an excellent recreational program for many years. There is a need to improve present facilities. There is also the possibility of restoring the historic mill dam which will change mosquito breeding areas into beautiful lagoons and will provide boating and canoeing. There is a limited need for providing erosion and sediment control within the park.

131. OAK TREE GOLF COURSE (B-3) SITE 52

An 18-hole championship course has been developed. Technical assistance has been provided with drainage and water developments. Soil survey data has been provided to the consultant. The scope of the project has been broadened to include housing, winter sports and possibly fee fishing. This measure is sponsored by the Mercer County Water Committee and a private development corporation.

132. FISH-FOR-FUN - NESHANNOCK (C-3) SITE 53

This stream, south of Mercer, has been designated as a Fish-for-Fun Stream by the Pennsylvania Fish Commission. Stream improvement and bank stabilization has been started, but there is a need for additional work. There is an active group of sportsmen in the Mercer area sponsoring the project.

133. CAMBRIDGE PARK (B-13) SITE 54

The Cambridge Springs High School of the Penn Crest is interested in developing an outdoor conservation laboratory and community park. This facility would be available to school students and residents of the school district. A plan has been developed for this land, owned by the school district. Financial and technical assistance is needed to complete this project.

134. PALUMBO'S PAR 3 GOLF COURSE (B-3) SITE 55 - complete

A private landowner was assisted with the development of a small lake in connection with the development of this facility. Completion of this development helps to meet some of the recreational demand for this type of recreation in Mercer County.

135. FARRELL TOT LOT (B-3) SITE 56 - completed

Erosion and sediment control measures were installed on the tot lot for the disadvantaged in the community of Farrell. The measures also improved the overall appearance and usefulness of the recreation area. A private recreation consultant planned the area without charge.

136. LINDY'S RECREATION AREA (B-3) SITE 57

This project will develop a private recreation area on a reclaimed strip mine area. Technical assistance is being provided to the landowners on water development and stabilization of critically eroding areas. This project is sponsored by the Mercer Recreation Committee.

137. FARMA CAMPGROUND (B-3) - completed SITE 58

A private campground for tents and trailers has been completed. Other facilities include a fishing lake, swimming pool and recreation building.

138. NESHANNOCK RECREATION AREA (B-3) SITE 59

A local developer has purchased land along the banks of Neshannock Creek to establish a private recreation area. There is a need for additional private funds and technical assistance to complete this project. This project is sponsored by the Mercer County Recreation Committee.

139. TOUR MAP (B-9)

There is a need to provide a map of points of interest to tourists in Venango and Crawford County. This project is sponsored by the tourist promotion agencies in each of the counties. Natural areas, historic sites, and recreation areas will be delineated on the map.

140. CRAWFORD PARK (B-3) SITE 60

This project will result in the development of a county park on the south side of Woodcock Reservoir. It is sponsored by the county commissioners of Crawford County. This project is related to proposal #6 on French Creek flood control being developed by the U. S. Army Corps of Engineers. Construction on the park will begin after the reservoir is completed.

141. RECREATION POTENTIAL STUDY (E-8)

A Recreation Potential Study has been completed in Crawford County. Similar studies are needed in Mercer, Erie, and Venango Counties which will show the potential for the major recreation enterprises. The Soil and Water Conservation Districts in these counties are sponsoring this proposal.

142. CARRIER'S CAMPGROUND (B-3) SITE 61

This is a private recreation development at the intersection of Routes 62 and 79. This developer needs technical assistance and private funds for the development of this recreation complex. The initial phase will be providing facilities for approximately 30 overnight campers.

143. CRANBERRY SWAMP (E-4) SITE 62

A private developer has purchased this site and is making plans to develop the area as a waterfowl and natural area. Technical assistance is needed by the landowner. This project is sponsored by the Mercer County Water Committee.

144. TWOMILE RUN COUNTY PARK (E-3) SITE 50

The 140-acre lake with 4.4 miles of shoreline will serve as the focal point for the development of a 2700-acre county park. The development will include campgrounds, picnic areas, hiking and riding trails, sports areas, swimming, fishing, and boating. This 2 million dollar project is sponsored by the Venango County Commissioners and the Venango County Soil and Water Conservation District. This project measure is related to project measure 128.

145. SCHOLLARD'S RUN WETLAND (E-4) SITE 63

This project is sponsored by the Western Pennsylvania Conservancy. A nature study area is being developed at this site. Trails have been installed and critical areas seeded. Additional technical assistance is needed to further develop this nature study area. A major portion of this area will be maintained in its natural condition and will be open to the public for nature study.

146. JEFFERSON PARK (B-3) SITE 64

The overall plan has been developed by a recreation consultant. Technical and financial assistance are needed to complete the project. The Jefferson Township Supervisors, working through a recreation authority, will provide a recreation complex at this site. First priorities for the township are to develop an ice skating rink, softball field, little league field and toboggan run.

147. HEMPFIELD TOWNSHIP PARK (B-3) SITE 65

The Hempfield Township Supervisors have purchased the area surrounding the Mathay, a PL-566 project. This 7-acre pool will serve as a base for water-oriented recreation. The supervisors need both technical and financial assistance to complete this recreation complex.

148. BRANDY SPRINGS PARK (B-3) SITE 66

This is an established park that has met the needs of Mercer area for many years. This facility needs to be modernized to continue to meet the recreational needs of the community. The recreation authority is searching for financial assistance to upgrade the facilities. Technical assistance is being provided to the Mercer Recreation Authority on this measure.

149. GUYASUTA BOY SCOUT CAMP (E-3) SITE 67

This camp was moved from the area now flooded over by the Shenango River Lake. It is now located where Deer Creek joins with French Creek. Technical assistance has been provided in tree planting, marsh development and establishment of camping sites. Additional technical assistance is needed at this camp in water management and development of wildlife and recreation areas. This project is sponsored by the Mercer County Boy Scout Council and the Mercer County Soil and Water Conservation District.

150. CONNEAUTVILLE OUTDOOR LABORATORY (B-18) SITE 68

An existing tract on land adjacent to the Conneautville Elementary School is being planned for conservation education. Trails and educational facilities need to be provided. This project is being sponsored by the Conneaut School District.

151. MEADVILLE PARK DEVELOPMENT (B-3) SITE 69

This park is located near Rainbow Lake in Meadville. A plan has been completed for 1.4 million dollars in recreation facilities. Technical assistance was provided in the development of this plan. The site plan is now being developed by a recreation consultant. The major need is securing funds to develop the area. This project is sponsored by the Meadville Recreation Authority.

152. VERNON TOWNSHIP PARK DEVELOPMENT (B-3) SITE 70

Land has been donated to the township for recreational development. This area needs to be planned to meet the recreational needs of the citizens. Technical and finan-

cial assistance will be needed to develop this area. The project is sponsored by the Vernon Township Supervisors.

153. BURGESS PARK DEVELOPMENT (B-3) SITE 71

This park is located in the city of Titusville. Local officials are working to expand and improve the park and recreational facilities. Development plans include tennis courts, parking lots, picnic area, amphitheater, and play fields. Soil Conservation Service is providing assistance on drainage and surface water disposal. Funds are being provided from local and state sources. The project is sponsored by the city of Titusville.

154. CHURCH RUN PARK (B-3) SITE 72

There is an excellent opportunity to develop a park surrounding the pool to be constructed on Church Run near Titusville. The park should be constructed to offer the greatest use for local residents. Land rights need to be acquired to permit utilization of the water. This project is directly related to Measure 5c Oil Creek Watershed.

155. FAIRVIEW PARK (B-3) SITE 73

This park surrounds the permanent pool on Site PA-491 of the Little Shenango Watershed. The township supervisors plan to develop it as a recreational area for residents of the township. The watershed sponsors have deeded the land to the township. Technical and financial assistance is needed to plan and develop the area. This measure is related to Project Measure 5d.

156. BURN'S CAMPGROUND - cancelled

157. DEVELOPING PEW HISTORICAL AREA (B-18) SITE 74

This area is located on the east side of Mercer. The Mercer County Historical Society is interested in preserving and developing this original Pew homestead for its historical significance.

158. SHARPSVILLE LITTLE LEAGUE COMPLEX (B-3) SITE 75 - completed

A little league complex has been completed at Sharpsville.

159. OVERLOOK AT EMLENTON (B-9) SITE 76

There is local interest in developing an overlook on the Allegheny Gorge on Route 80 at Emlenton. This is one of the beautiful views in the project area. The project measure sponsors need to meet with Penn Soil to determine the feasibility of this project.

160. ESTABLISH SNOWMOBILE TRAILS ON MARGINAL OR IDLE LAND (B-3)

Present snowmobile trails are insufficient in Erie County. This has created an unsafe condition and has often caused damage to personal property. Landowners are working with the snowmobile clubs of Erie County to establish trails on idle land which would solve many of the existing problems. A study of potential trail areas is needed. The project is sponsored by the Erie County Agricultural Study Committee and is related to Project Measure 48.

161. RECREATIONAL DEVELOPMENT OF MERCER COUNTY STREAMS (B-3)

Mercer County streams have a tremendous potential for recreation development. Canoeing and fishing could be improved. An inventory of streams that have recreational opportunities needs to be completed. Limiting factors, such as pollution, need to be noted. Priority streams will then be selected for improvement. Initial studies indicate that the Shenango River, Sandy Creek, Wolf Creek, and Neshannock have good potential for improved recreational development. This project is sponsored by the Mercer County Soil and Water Conservation District.

162. NATIONAL CHRISTMAS TREE, 1978 - cancelled163. ALLEGHENY CANOE COURSE (B-3)

The Allegheny River and its tributaries, especially French Creek and Sandy Creek, offer an excellent opportunity to develop a canoe course. A study of the streams to determine location of rapids, hazards, portages, access areas, and camping sites is needed before a canoe course can be developed. The Boy Scout Councils of the area are sponsoring the project.

164. PINE TOWNSHIP RECREATION AREA (B-3) SITE 77

The overall plan has been developed by a recreation consultant. Technical and financial assistance is needed to complete the project. The township supervisors working with the Pine Grove Community Center will provide a recreation complex at this site. First priority for the township is to develop a basketball court.

- TO IMPROVE OUR COMMUNITY ENVIRONMENT

A. ORIGINAL MEASURES

51. POLLUTION ABATEMENT - OTTER AND SANDY CREEKS (B-19) - completed

The closing of the milk processing plant has eliminated the cause of pollution on these creeks.

52. POLLUTION ABATEMENT - TWOMILE (B-19)

The Seneca Sewage Authority is inadvertently permitting the flow of raw sewage into Twomile Run, Venango County, during periods of high runoff. Approximately 7 miles of the run are polluted. Local citizens have been working with the Bureau of Environmental Protection and the Department of Environmental Resources on this problem. Local citizens served by this authority are planning to correct this situation within the near future.

53. REMOVAL OF TREES WHICH HAVE FALLEN INTO STREAMS - cancelled

54. KEYSTONE DEVELOPMENT (B-14) SITE 12

This measure is for the commercial development of an area around the interchange at the junction of I-80 and US-19 about 3 miles south of Mercer. To date, several gas stations have been constructed and are in operation. Major construction of other facilities, such as a motel and a restaurant, are expected to start in 1971 and 1972.

55. LONDON INTERCHANGE (B-14) SITE 13

Originally this measure was for the engineering and technical services for the drainage of the London Interchange on I-79 in Mercer County. Since then three buildings have been completed and the balance of major construction is dependent on the completion of I-79. Project sponsors will continue to work on this measure.

56. COMPREHENSIVE LAND USE PLANNING (F-8)

The purpose of this measure is to complete the development of sound comprehensive land use plans for the project area. Since adopting this measure, comprehensive planning has been initiated on either a county or township basis throughout the project area. A considerable amount of planning assistance is required to complete this measure. The executive council and study committees will continue to cooperate with local planning units to complete this important measure.

57. TRANSPORTATION STUDY (B-8) - completed

A transportation study has been completed by the Planning Commission for Mercer County, but it needs continuing revision.

58. SHOPPING CENTER DEVELOPMENT (FRANKLIN AND OIL CITY), (B-14) SITES 22

This measure is for the construction of two shopping centers to provide for the needs of the residents of Franklin and Oil City, Venango County. Since adoption, the Oil City site has been completed and development of the Franklin site is under way. This measure is sponsored by the Oil City and Franklin Redevelopment Authorities.

59. RESTORATION OF FORT FRANKLIN (B-18) SITE 23

This measure, sponsored by the Venango County Museum Association, is for the restoration of Fort Franklin. This was the site of a major part of the fighting during the French and Indian War. Estimated costs of restoration are \$50,000 of which \$35,000 was appropriated by the state of Pennsylvania. Complications have impeded completion of this project, but the association is continuing to work on this historical measure.

60. OIL CITY MOTEL (B-14) SITE 24 - completed

A motel has been constructed and is in operation.

61. EXPANDED FEDERAL TRAINING PROGRAM (B-18) - completed

This program has been administered by the Pennsylvania Bureau of Employment Security. Training has been provided for practical nurses, telephone operators, engineers, welders, and others. If employment levels drop the need for additional training will increase again.

62. IMPROVE THE COUNTY APPEARANCE (B-17)

The purpose of this measure was to plan and carry out an educational program which will encourage residents to improve the general appearance of the county. County-wide, Chambers of Commerce have undertaken this measure. Currently the RC&D sponsors are seeking new methods of promoting this measure.

63. ROADSIDE PICNIC TABLES (B-13)

Originally this measure was for the placement of picnic facilities (tables, parking, and trash containers) at approximately 10-mile intervals along PA-18, PA-8, US-322, I-79, and I-80. To date, PennDoT and many communities have set up picnic tables along several of these routes. The Rural-Urban Study Committees will continue to work with PennDoT and others to increase the number of picnic table locations.

64. KEYSTONE ORDNANCE WORKS (B-14) SITE 31 - completed

This measure provided for the establishment of an industrial park at the site of the old Keystone Ordnance Works in Crawford County. To date, an industrial park has been established which includes a newly expanded Pittsburgh Plate Glass Company plant and a Rusco Corporation plant.

65. SENECA INDUSTRIAL PARK (B-14) SITE 32

This measure is for the establishment of an industrial park of approximately 50 acres in size at Seneca near Oil City in Venango County. Development of the park is now under way with the recent construction of a Quaker State plant at this site. The Pennsylvania Industrial Development Authority and local private interests are cooperating in the establishment of this measure.

66. INTERCHANGE INDUSTRIAL PARK DEVELOPMENTS (B-14) SITES 33

This measure is for the development of three industrial parks near interstate route interchanges at West Middlesex, US-19, and London in Mercer County. Since the adoption of this measure, several trucking firms have made plans to establish trucking terminals at or near these locations. The Rural-Urban Study Committee of Mercer County has sponsored this measure.

67. INDUSTRIAL PARK EXPANSION (B-14) SITES 34

Expansion of three existing industrial parks - Grove City, Shenango Valley, and Reynolds - is proposed. To date, expansion is under way at the Grove City site. Project sponsors are continuing to work on the implementation of this measure.

68. MUNICIPAL SEWAGE FACILITIES - HICKORY AND HEMPFIELD TOWNSHIPS (B-13)

This measure is for the expansion of the Hickory and Hempfield Townships' sewage facilities into the urban areas not now served by municipal sewers. Both townships are now in

the process of expanding their systems to serve these areas.

69. CLINTONVILLE MUNICIPAL SEWAGE (B-16) SITE 35

A municipal sewage disposal system is needed for the community of Clintonville in southwest Venango County. To date, approval has been given for a \$50,000 grant and a \$100,000 loan from F. H. A. The borough is also working with a consultant on both sewers and water.

70. CLINTONVILLE MUNICIPAL WATER (B-15) SITE 35

This measure, for the development of a municipal water system, is closely related to Measure 69. Planning is now under way and loans and grants, as noted in Measure 69, are approved.

71. FRANKLIN MOTOR LODGE (B-14) SITE 36 - completed

A motor lodge has been completed and is in operation in Franklin, Venango County.

72. CONVENTION FACILITY (B-13) SITE 37 - completed

Modest convention facilities have been completed in the Rocky Grove Fairground area as originally proposed.

73. POLLUTION ABATEMENT - SOUTH SANDY AND HAGGERTY RUNS (D-19)

Acid mine water pollution abatement programs are needed on both these runs. South Sandy is polluted by acid from surface mining, while Haggerty is polluted by acid seepage from old deep mines. To date, the surface mined area on South Sandy has been planted for stabilization and planting of Haggerty is planned. Stabilization of the raw eroding areas will reduce the volume of acid produced. Other measures may be needed, especially on Haggerty. Project sponsors are working with the Department of Environmental Resources and others on this measure.

74. POLLUTION ABATEMENT - PITHOLE CREEK, WEST PITHOLE CREEK, CHERRY RUN AND LOWER TWOMILE RUN (D-19)

This measure is for the abatement of oil pollution on these runs. Oily water from pumping operations reduces the potential of approximately 37 miles of these streams. At the present, the Pennsylvania Fish Commission is working on the problem areas. The Izaak Walton Chapters of Venango County have sponsored this measure.

75. POLLUTION ABATEMENT - MCKEE RUN - cancelled

76. POLLUTION ABATEMENT LABORATORY - cancelled

77. THE EARLY COMPLETION OF I-79 and I-80 (B-9) - completed

Both of these interstate highways have been completed through the project area.

78. FRENCH CREEK INDUSTRIAL PARK DEVELOPMENT (B-14) SITE 39

The purpose of this measure is for the development of an industrial park along French Creek in the vicinity of Meadville. To date, the Sunbeam Corporation has purchased this site and is in the process of developing it.

79. CONSTRUCTION OF NEW ROUTE 27 (B-9)

This measure is for the realignment and widening of PA-27 between Meadville and Titusville. To date, PennDOT has studied two different alignments and present plans include connecting this route with the Meadville bypass.

80. IMPROVEMENT OF ROUTE 8 (B-9)

This measure is for the improvement of Route 8 between the Barkeyville Interchange on I-80, on the south, to the interchange on I-90, on the north. Construction is now under way on a 12-mile section south of Franklin. Estimated cost of this project measure is 20 million dollars.

81. EMLENTON EAST - CRANBERRY HIGHWAY (B-9)

This measure is for the construction of a new highway between the Emlenton Interchange and Cranberry. At the present, this measure is included in PennDOT's six-year plan.

82. ROADSIDE RESTS (B-13) SITES 40

Originally this measure was for the construction of a roadside rest at the summit of Pecan Hill on Route 8 in Venango County. Since adoption of this measure it has been expanded to include other roadside rests. To date, four additional roadside rests are planned. The original site is included as a part of the Route 8 reconstruction (see Measure 80).

83. POLLUTION ABATEMENT FRENCH CREEK (B-19)

Raw sewage is being discharged into French Creek. This measure is for the elimination of this situation. The French Creek Watershed Association has been organized and will attack this problem at an early date.

84. TRAINING AIDS CENTER (B-13) - completed

A Training Aids Center has been established in cooperation with Warren County to serve the needs of public schools in Crawford and Warren Counties. Erie County also has a Training Aids Center.

85. ESTABLISHMENT OF TECHNICAL SCHOOLS (B-13) SITES 41

This measure is for the establishment of a vo-tech school in each county. To date, Crawford and Venango Counties have established a school and Mercer County has selected a site.

86. GRADUATE COLLEGE TRAINING (B-18)

This measure is for the establishment of a graduate level training program at a local college. It is now anticipated that Edinboro College will gain university status and offer graduate training. The Education Study Committees will continue to work on the implementation of this measure.

87. SHARON COMMUNITY COLLEGE (SHENANGO VALLEY CAMPUS) (B-13)
SITE 42 - completed

This college has moved to its new location and is constantly adding to their facilities.



Conservation education for our children.

(Environment continued)

B. MEASURES ADDED SINCE 1964

165. RURAL FIRE PROTECTION - MERCER (B-13)

A study was made for East Lackawannock Township for existing and potential water supplies for rural fire protection. Several sites have been selected and dry fire hydrants are being installed and marked. The project is sponsored by the East Lackawannock Township Supervisors and the East End Fire Company of Mercer. The other counties in the project area are interested in this measure.

166. LATONKA HOMES (B-3) SITE 43

Planning assistance needs to be provided to landowners for the orderly development of private lots. Soil survey information is essential to lot owners for planning on-site sewage systems. The Lot Owners' Association also needs to develop a program of road maintenance, plans for centralized sewage system, and a maintenance program for the development, including weed control in the lake, and improvement of recreational opportunities. This proposal is directly related to proposal 103 and is sponsored by the Lake Latonka Lot Owners' Association.

167. THIEL COLLEGE BIOLOGICAL CENTER - cancelled

168. CRITICAL AREA PLANTING (D-7)

Initially this project was aimed at establishing cover on strip mine areas. It has been expanded to include urban areas, tot lots, streambanks, and other critical sediment producing areas. A 5-year project measure work plan has been developed for this measure. Funds are provided by RC&D, REAP, private utility companies, school districts, local governmental bodies, and others. The measure is sponsored by the Soil and Water Conservation Districts and county commissioners of the project area.

169. JAMESTOWN SEWAGE SYSTEM (B-16) SITE 78 - completed

A sewage system has been installed in Jamestown which has capacity for future growth.

170. LINESVILLE SEWAGE SYSTEM (B-16) SITE 79 - completed

The borough of Linesville recently completed a municipal sewage disposal system which will eliminate many of the problems of on-site disposal for this community.

171. PENN SOIL CONSERVATION EDUCATION CENTER (B-18) SITE 80

There is a need for additional training for both teachers and students of the project area in conservation education. A site has been purchased adjacent to the Borough of Sandy Lake and Lake Wilhelm which will be used for the purpose. Clarion State College will be administratively responsible for this project. Funds have been allocated for the center and construction is expected to start soon.

172. WOLF CREEK BEAUTIFICATION AND DEVELOPMENT (E-17) SITE 81

This project involves the cleanup of Wolf Creek in the Borough of Grove City. Grove City College Student Government and local Boy Scouts are doing the work on this project. It is anticipated that RC&D technical assistance and funds for critical areas will be provided. The Mercer S&WCD, the Grove City Council, and the above groups are sponsoring this project.

173. TOWNSHIP ACTION PROGRAM - cancelled

174. COCHRANTON OUTDOOR LABORATORY (B-13) SITE 82

The Cochranon Elementary School, which is part of the Crawford Central School District, has property adjacent to their school that will be used as an outdoor laboratory. Financial aid and technical services are needed to develop this facility. A conservation plan is being developed by the Soil Conservation Service and the Pennsylvania Bureau of Forestry.

175. JOHNSTON HISTORICAL TAVERN (B-18) SITE 83 - completed

Historically, Johnston's Tavern was a stage coach stop. This historical site has been preserved and is open to the public. It is being administered by the Pennsylvania Historical Society.

176. FREDONIA SEWAGE SYSTEM (B-16) SITE 84

This small community is in need of a centralized sewage system. The tax base in the community makes it impossible to build the facility without assistance. The Farmers Home Administration has given them a \$54,000 grant and a loan for \$300,000. They have also received grants from the state for \$108,000. This project, sponsored by the Fredonia Council, will move forward as soon as engineering work is completed.

177. MERCER 4-H PARK (B-18) SITE 85

This site is being developed by citizens of Mercer County as a 4-H park. Buildings and facilities have been constructed. There is need for additional buildings and recreation facilities. The Penn State Extension Service is taking the leadership on the development of this area.

178. GREEN THUMB PROGRAM (F-13)

This very popular program sponsored by the USDA and the Pennsylvania Department of Agriculture provides employment opportunities to senior citizens. They have worked on many conservation and recreation projects in conjunction with the RC&D sponsors. This program has been expanded to include the entire four county area. It is anticipated that the scope of this program will be increased in the RC&D area.

179. CLINCH-TITE POLLUTION ABATEMENT (B-19) SITE 86 - completed

The Extension Service assisted the Clinch-Tite Company in finding other uses for sawdust and in eliminating the practice of disposal through burning.

180. LINESVILLE HOUSING (B-13) SITE 87 - completed

An organization of members of the Farmers Union and local businessmen received a \$175,000 loan to develop low-income housing in Linesville.

181. IMPROVED LIBRARY FACILITIES (B-13)

There is a need to improve library facilities within the project area. A new library has been constructed in Mercer. A library is under construction in Sharon and a remodeling program has been completed in Meadville. Many other communities in the project area need to update their facilities. Local library boards are sponsoring this project.

182. SOLID WASTE DISPOSAL (B-13)

There is a need to develop feasible and economical methods of disposing of solid wastes within the area. Studies are under way within the project area by the planning commissions and health departments to determine alternate methods of handling this problem. The Northwest Regional Planning and Development Commission is also working on this problem on a regional basis. Financial assistance will be needed to implement these studies. Project sponsors fully support this proposal.

183. SEDIMENT CONTROL ORDINANCES (E-7)

Sediment is the major pollutant of the waters within the project area. A major source of this sediment load is rapidly urbanizing areas. Local Soil and Water Conservation Districts and planning commissions are working to develop sediment control ordinances which will help minimize this problem.

184. FLOOD PLAIN ZONING (E-19)

There is a need within the project area to limit development on flood plains and to prevent encroachment on streams, especially below structures. Ordinances are needed by the local governments to control growth in these areas. The measure is sponsored by the Soil and Water Conservation Districts and planning commissions.

185. MOSQUITO CONTROL STUDY (B-8)

There is a heavy infestation of mosquitos within the project area. Preliminary studies completed by the Health Department indicate a need for a more comprehensive study and control of mosquito breeding areas. The Health Department will make this study, but local financial assistance is needed.

186. HIGHWAY IMPROVEMENT, ROUTE 358 (B-9)

There is a need to improve highway Route 358 from the intersection of I-79 west to Greenville. Many safety hazards exist in the present road alignment. The Soil and Water Conservation District is asking that natural beauty areas be undisturbed by this reconstruction. This project is sponsored by the Mercer County Transportation Committee and the Pennsylvania Department of Transportation.

187. SCRUBGRASS CREEK WATERSHED ASSOCIATION (B-6)

The Venango County Soil and Water Conservation District sponsored a watershed association in this area. The Pennsylvania Bureau of Mines and the Soil Conservation Service are providing technical assistance to this watershed association. A consultant engineer has been hired to study water quality within the watershed. Soil Conservation Service is making a study of impoundment sites for water quality improvement and sediment control. Additional technical and financial assistance will be needed to implement this measure.

188. SHENANGO RIVER BEAUTIFICATION (B-17) - completed

A streambank improvement and stabilization program has been completed on a portion of the Shenango River in Sharon. The primary purpose of the measure was to improve the appearance of this area.

189. MERCER BOG (B-18) SITE 88

A natural glacial bog, located southwest of Mercer near Route 318, provides an excellent outdoor biological study area. The RC&D project sponsors are working with state agencies and conservancy groups to purchase this area to preserve it as a nature study area. Local colleges are using the area presently for this purpose. The sponsors of this project are the Mercer County Soil and Water Conservation District and the Mercer County Historical Society.

190. PLANTING TREES FOR LANDSCAPE IMPROVEMENT AND NOISE POLLUTION ABATEMENT (E-17)

The Mercer Soil and Water Conservation District is sponsoring this project to improve the aesthetics of this area by planting evergreens to improve the landscape, especially during winter months. They are also interested in planting trees along the interstate highways to reduce noise pollution as well as improve the aesthetics.

191. CONSERVATION EDUCATION BROCHURE (B-18) - completed

A brochure explaining the outdoor education laboratory sites and their features of special interest available for use by the Erie County schools and general public.

192. CONSERVATION INFORMATION CENTER (B-18) SITE 89

A center and a conservation laboratory will be established at Kennedy Christian High School in Sharon. The center will serve as a central information center for resource problems in the Shenango Valley. This project is sponsored by the Kennedy Christian High School and the Mercer County Soil and Water Conservation District.

193. TITUSVILLE OUTDOOR LABORATORY (B-18) SITE 90

An area owned by a local school teacher will be used for outdoor education for the Titusville School District. Wildlife areas, nature trails, and study areas will be established. This project is sponsored by the Titusville School District and the Crawford County Soil and Water Conservation District.

194. RURAL FIRE PROTECTION - TOWNVILLE (B-8) SITE 91

A study is needed to provide fire protection for this rural community. It is anticipated that hydrants will be placed in existing and new ponds in the vicinity of Townville to provide adequate water. This project is sponsored by the Townville Fire Company.

195. MINI FOREST (E-7)

This proposal is aimed at providing trees and shrubs to small lot owners in urbanizing areas. These trees will be used to improve the aesthetics, reduce erosion, and provide food and cover for wildlife and songbirds. The Mercer County Boy Scout Council and the Mercer County Soil and Water Conservation District are jointly sponsoring this project.

196. PROVIDE RURAL WATER AND SANITARY FACILITIES (B-16)

It is the opinion of the Penn Soil Executive Committee that the lack of adequate rural water supplies and sanitary facilities is one of the major limiting factors in the growth of the Penn Soil Project Area. The lack of adequate sanitary facilities also creates major health and pollution hazards. Working with all existing agencies and groups, the committee will encourage the early completion of rural sewer and water studies.

197. INSTALL POND SAFETY SIGNS AND EQUIPMENT (B-18)

A safety hazard exists in ponds on private land. The Erie Chapter of the American National Red Cross has agreed to furnish safety information and signs for this project. It will cost approximately \$15.00 per installation to provide adequate rescue equipment. The sponsors feel that this program will instill an attitude of safety consciousness in pond users as well as providing protection in an emergency. This project is sponsored by the Red Cross and the Erie County Recreation Committee.

198. INSTALL HYDRANTS IN FARM PONDS - ERIE COUNTY (E-13)

There is an inadequate or inaccessible water supply in most of rural Erie County for fighting fires. A special REAP project has been approved to help landowners install the necessary equipment. This practice will save lives, property and livestock. The project is sponsored by the Erie County Agricultural Study Committee, Erie County ASCS Committee and the Soil Conservation Service.

199. ESTABLISH DEMONSTRATION WOODLOTS ON SCHOOL DISTRICT PROPERTIES (B-18)

There is a lack of area in Erie County for students and the public to observe good forestry management. The establishment of these areas will stimulate interest in forest management practices. The services of foresters from Hammermill Paper Company and the Pennsylvania Department of Environmental Resources have been offered. This project is sponsored by the Forestry Committee of Erie County.

200. DISTRIBUTION OF TREE SEEDLINGS - ERIE COUNTY (E-7)

The purpose of this project is to provide tree seedlings in small quantities for general aesthetics and conservation. Lot owners will be able to plant borders, windbreaks and wildlife areas at a reasonable cost. FFA Chapters and scout troops are distributing the seedlings. This project is sponsored by the Forestry Committee of Erie County.

201. STREAM EROSION AND SEDIMENTATION STUDY IN THE LAKE ERIE BASIN (E-8)

There is a need to reduce sediment and the other pollutants it carries from flowing into Lake Erie. This proposal is to study sources of sediment in the watersheds of the streams flowing into the lake. This proposal is sponsored by the Environmental Committee of Erie County. Priority for these studies has been established as follows: (1) Mill Creek, Cascade Creek, Fourmile Creek, Sixmile Creek and Sixteenmile Creek; (2) Elk Creek, Trout Run, Walnut Creek, Eightmile Creek and Twentymile Creek, and (3) Raccoon Creek, Crooked Creek, Sevenmile Creek, Twelvemile Creek and other small streams.

202. LAGOONS FOR SEWAGE DISPOSAL (B-16)

Many small communities in the area are in need of centralized sewage disposal systems, but are unable to afford treatment plants. Both technical and financial assistance is needed to install sewage lagoons where sites are available. The Pennsylvania Bureau of Health, Department of Environmental Resources, can provide much help and guidance on this proposal. This project is sponsored by the Venango County Soil and Water Conservation District.

203. PROMOTE OUTDOOR EDUCATION LABORATORIES - VENANGO COUNTY
(B-18) SITES 92

Students need to be provided with a background and understanding of environmental issues. There is also a need to provide both facilities and qualified teachers to give instruction on environmental education. There is interest in establishing outdoor education laboratories at Twomile County Park and Cranberry Elementary School. The Venango County Soil and Water Conservation District is sponsoring the project.

204. ESTABLISH CROWNVETCH PLOT (E-7) SITE 50

There is a need to provide crownvetch to landowners for erosion control. A two-acre plot is being established at Twomile County Park for this purpose. These crowns will be used to control erosion on small critical eroding areas. The project is sponsored by the Venango County Soil and Water Conservation District.

205. PROMOTE ENVIRONMENTAL UNDERSTANDING AND IMPROVEMENT (F-18)

All citizens, (rural and urban, farm and nonfarm, young and old, individually and collectively) should understand the importance of maintaining and improving the quality of our environment. They should know what effect their actions have on our natural resources and our society. They should understand the many complex ecological inter-relations in our technical and social world, gather the most valid factual information, and furnish leadership to help identify the best alternatives for correction and resolution of the environmental problem. The Penn State Cooperative Extension Service will assist with this proposal through its educational program on environmental ecology.

206. AN EDUCATIONAL PROGRAM TO IMPROVE POLLUTION CONTROL METHODS
(F-18)

Farmers and farm product processors need to develop an understanding of the effects of their operations upon the pollution of human, animal, and plant life and new technology which might reduce pollution and improve the environment. Specific educational programs need to deal with animal waste storage, recycling, or disposing in compliance with safe and legal standards; chemical pollution reduction through soil testing and use of least persistent chemicals; pesticide monitoring and analysis of air pollution damage to vegetation. Consumers and the general public need to be made aware of the agricultural pollution problems and some of the fundamental misunderstandings. The Penn State Cooperative Extension Service will assist with this proposal by presenting basic, factual, and positive educational information relating to agricultural pollution control.

207. PROMOTE AN EDUCATIONAL PROGRAM ON SAFETY (F-18)

Individuals, families, and groups need to be aware of the cause of the many accidents that occur around the home, on the farm, and on the highway; and what to do to reduce the number and severity of these accidents. The Penn State Cooperative Extension Service has been and will continue to conduct an educational program on safety for both youth and adults. Many of these efforts become an integral part of a larger educational program. Thus it becomes difficult to identify specific results. The safety program should concern itself with such items as machinery, livestock, pesticides, highway, recreation and the home.

208. AN EDUCATIONAL PROGRAM TO DEVELOP A BETTER RURAL-URBAN UNDERSTANDING (F-18)

In our complex, highly specialized society it is difficult to appreciate the contribution of various individuals, groups, and/or organizations to the growth, health, and happiness of our fellowman. Penn State Cooperative Extension has been and will continue to develop a program to assist people, individually or collectively, in their efforts to increase the understanding of the role of agriculture in our society. This will include such things as farm-city type activities involving rural-urban cooperative efforts to foster increased understanding of mutual interdependence.

209. TOPOGRAPHIC SURVEY (B-8)

The U. S. Geological Survey will be encouraged to update the topographic survey maps for Cambridge Springs, Union City and Corry Quadrangles. Engineers, planners and others would benefit greatly by having up-to-date information. This project is sponsored by Erie County Surveyors Association, Erie Chapter - Society of Professional Engineers, and Erie County Board of County Commissioners.

210. GROVE CITY INTERCHANGE (B-9) SITE 93

Local groups are working with PennDOT to provide an I-80 interchange on Route 173 north of Grove City because there is a lack of hospitals near the existing interchanges on I-80. This interchange will also improve local access to the interstate system and generate economic development in this area. This project is sponsored by the Transportation Committee of Mercer County.

211. CAMPBELL'S HOUSING DEVELOPMENT (B-13) SITE 94

Housing for the elderly is in short supply. A private development near New Wilmington will provide some of this needed housing for elderly people, students and professors. The developer needs technical assistance for the construction of several lakes and overall planning assistance for a modular home-type cluster development. This developer will manufacture these modular homes in his plant in the project area and will maintain control of the land. This project is sponsored by the Mercer County Soil and Water Conservation District.

212. PENN SOIL EROSION AND SEDIMENT HANDBOOK (E-19)

The Penn Soil Executive Committee is sponsoring a measure to develop an erosion and sediment control handbook. They will work with local governments and planning commissions of the four county area to have their subdivision ordinances conform with the recommendations and specifications in the handbook. They will also make the handbook available to consultants, developers, and others in an effort to curb sedimentation during construction.



New facilities to serve the tourist trade.

NOTES

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
1	ACCELERATED SOIL SURVEY	F-1	Ag	C		x			
2	ACCELERATED CONSERVATION PLANNING	F-1	Ag	C, E, M, V		x			
3	RESOURCE PLANNING ASSISTANCE IN AREAS OF RAPIDLY CHANGING LAND USE	F-1	Ag	C, E, M, V		x			
4	LAND TREATMENT	F-7	Ag	C, E, M, V		x			
5	ACCELERATED STUDY FOR THE UTILIZATION AND MARKETING OF FOREST PRODUCTS	A-8	Wd	C, E, M, V			x		
6	AN EDUCATIONAL PROGRAM TO DEVELOP A BETTER PUBLIC IMAGE OF THE FARMER	F-18	Ag	C, M, V				x	See 208
7	EDUCATIONAL ASSISTANCE TO FARMERS IN EFFECTING THE LEGAL AND ORDERLY TRANS- FER OF FARM FROM FATHER TO SON	F-18	Ag	C, M, V				x	See 97 and 100
8	AN EDUCATIONAL PROGRAM TO ENCOURAGE THE DEVELOPMENT AND USE OF MORE EQUITABLE LEASING AGREEMENTS	F-18	Ag	C, M, V				x	See 97 and 100
9	AN EDUCATIONAL PROGRAM RELATING TO FARM OPERATIONS	F-18	Ag	C, M, V				x	See 100

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
10	A STUDY RELATING TO THE POSSIBILITIES OF GROWING SPECIALIZED CROPS	F-18	Ag	C, M, V				x	See 98
11	AN EDUCATIONAL PROGRAM TO SHOW THE VALUE OF IMPROVED FARM MANAGEMENT	F-18	Ag	C, M, V				x	See 97 and 100
12	AN EDUCATIONAL PROGRAM TO SHOW THE VALUE OF EFFICIENT FARM BUILDINGS	F-18	Ag	C, M, V				x	See 97 and 100
13	AN EDUCATIONAL PROGRAM TO ENCOURAGE THE WIDER USE OF A COMPLETE SOIL TESTING PROGRAM	F-18	Ag	C, M, V				x	See 97 and 100
14	AN EDUCATIONAL PROGRAM TO ACQUAINT COUNTY RESIDENTS AS TO THE USE AND VALUE OF THE SOIL SURVEY REPORT	F-18	Ag	C, E, M, V		X			
15	WATERSHED PROTECTION AND FLOOD PREVENT- ION (PL-566 PROJECTS) - SITES 1-6	C-6	WA	C, E, M, V		x			
16	FRENCH CREEK FLOOD CONTROL - SITES 7-9	C-5	Wa	C		x			
17	NEW WILMINGTON DEVELOPMENT - SITE 11	C-6	Wa	M	x				
18	SENECA LAKE	C-5	Wa	V				x	

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/ _____	Committee Sponsoring of Measure 2/ _____	Applicable County 3/ _____	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
19	LAKE-SIDE HOUSING DEVELOPMENT - SITE 14	B-6	Wa	M			x		
20	OTTER CREEK DEVELOPMENT	B-6	Wa	M				x	
21	CONNEAUT LAKE NO. 2	C-5	Wa	C				x	
22	CUSSEWAGO LAKE - SITE 16	C-6	Wa	C	x				
23	CRANBERRY LAKE	C-6	Wa	V				x	
24	ALLEGHENY RIVER FABRI	C-5	Wa	V				x	
25	CHUBB RUN FLOOD PROTECTION	C-5	Wa	V				x	
26	SUGAR LAKE IMPROVEMENTS	C-6	Wa	C				x	
27	SPARTANSBURG LAKE - SITE 17	C-6	Wa	C	x				
28	LITTLE SUGAR CREEK LAKE	C-6	Wa	C				x	
29	A STUDY OF IMPOUNDMENT DEVELOPMENT IN CONJUNCTION WITH HIGHWAY CON- STRUCTION	C-6	Wa	C, M, V				x	
30	LAKE HANNAVILLE	C-6	Rec	V				x	

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Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
31	CROSS CREEK LAKE	C-6	Rec	V				x	
32	CROOKED CREEK WATERFOWL DEVELOPMENT - SITE 10	C-4	Rec	C			x		
33	ERIE NATIONAL WILDLIFE REFUGE - SITE 15	C-4	Rec	C		x			
34	SUGAR CREEK RECREATION AREA	C-4	Rec	V				x	
35	WATERFOWL MARSH DEVELOPMENT - SITE 18	C-4	Rec	C	x				
36	WOLF CREEK WATERFOWL MARSH DEVELOPMENT	C-4	Rec	M				x	
37	WILDLIFE MARSHES - SITES 19	C-4	Rec	C, M		x			
38	PYMATUNING STATE PARK - SITE 20	B-3	Rec	C		x			
39	SHENANGO RESERVOIR, RECREATION AREA - SITE 21	B-3	Rec	M		x			
40	VACATION BROCHURE	B-3	Rec	C, E, M, V			x		
41	MARKING OF GEORGE WASHINGTON TRAIL	B-9	Rec	C, V		x			
42	TOURIST PROMOTION AGENCY	B-3	Rec	C, E, M, V		x			

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Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
43	PINE GROVE GOLF COURSE EXPANSION-SITE 25	B-3	Rec	M		x			
44	GOLF COURSE CONSTRUCTION - SITE 26	B-3	Rec	M			x		
45	SANDY LAKE STATE PARK (MAURICE GODDARD STATE PARK) - SITE 27	B-3	Rec	M		x			
46	OIL CREEK VALLEY STATE PARK - SITE 28	B-3	Rec	C		x			
47	MERCER COUNTY RECREATION DIRECTOR	B-19	Rec	M	x				
48	WINTER SPORTS CENTERS - SITES 29	B-3	Rec	C, M, V		x			
49	SHOOTING PRESERVE - SITE 30	B-4	Rec	C, M, V			x		
50	ALLEGHENY GORGE STATE PARK - SITE 38	B-3	Rec	V	x				
51	POLLUTION ABATEMENT - OTTER AND SANDY CREEKS	B-19	En	M			x		
52	POLLUTION ABATEMENT - TWOMILE	B-19	En	V	x				
53	REMOVAL OF TREES WHICH HAVE FALLEN INTO STREAMS	B-19	Wa	V				x	
54	KEYSTONE DEVELOPMENT - SITE 12	B-14	Ru	M		x			

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
55	LONDON INTERCHANGE - SITE 13	B-114	Ru	M		x			
56	COMPREHENSIVE LAND USE PLANNING	F-8	Ru	C, E, M, V		x			
57	TRANSPORTATION STUDY	B-8	Ru	M			x		
58	SHOPPING CENTER DEVELOPMENT (FRANKLIN AND OIL CITY) - SITES 22	B-114	Ru	V		x			
59	RESTORATION OF FORT FRANKLIN - SITE 23	B-18	Ed	V	x				
60	OIL CITY MOTEL - SITE 24	B-114	Ru	V			x		
61	EXPANDED FEDERAL TRAINING PROGRAM	B-18	Ed	C, M, V			x		
62	IMPROVE THE COUNTY APPEARANCE	B-17	Ru	C, M, V		x			
63	ROADSIDE PICNIC TABLES	B-13	Ru	C, E, M, V		x			
64	KEYSTONE ORDINANCE WORKS - SITE 31	B-114	Ru	C			x		
65	SENECA INDUSTRIAL PARK - SITE 32	B-114	Ru	V		x			
66	INTERCHANGE INDUSTRIAL PARK DEVELOPMENTS - SITES 33	B-114	Ru	M		x			

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code <u>1/</u>	Committee Sponsoring of Measure <u>2/</u>	Applicable County <u>3/</u>	Current Status				Remarks
					Planting	Operations	Completed	Canceled	
67	INDUSTRIAL PARK EXPANSION - SITES 34	B-14	Ru	M		x			
68	MUNICIPAL SEWAGE FACILITIES - HICKORY AND HEMPFIELD TOWNSHIPS	B-13	Ru	M		x			
69	CLINTONVILLE MUNICIPAL SEWAGE - SITE 35	B-16	En	V		x			
70	CLINTONVILLE MUNICIPAL WATER - SITE 35	B-15	En	V		x			
71	FRANKLIN MOTOR LODGE - SITE 36	B-14	Ru	V			x		
72	CONVENTION FACILITY - SITE 37	B-13	Ru	V			x		
73	POLLUTION ABATEMENT - SOUTH SANDY AND HAGGERTY RUNS	D-19	Wa	V		x			
74	POLLUTION ABATEMENT - PITHOLE CREEK, WEST PITHOLE CREEK, CHERRY RUN, AND LOWER TWOMILE RUN	D-19	En	V		x			
75	POLLUTION ABATEMENT - MCKEE RUN	D-19	En	V				x	
76	POLLUTION ABATEMENT LABORATORY	D-19	En	E				x	
77	THE EARLY COMPLETION OF INTERSTATE ROUTES 79 and 80	B-9	Ru	C, E, M, V			x		

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Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
78	FRENCH CREEK INDUSTRIAL PARK DEVELOPMENT - SITE 39	B-14	Ru	C		x			
79	CONSTRUCTION OF NEW ROUTE 27	B-9	Ru	C	x				
80	IMPROVEMENT OF ROUTE 8	B-9	Ru	C, E, V	x				
81	EMLENTON EAST-CRANBERRY HIGHWAY	B-9	Ru	V	x				
82	ROADSIDE RESTS - SITES 40	B-13	Ru	V		x			
83	POLLUTION ABATEMENT - FRENCH CREEK	B-19	En	V		x			
84	TRAINING AID CENTER	B-13	Ed	C			x		
85	ESTABLISHMENT OF A TECHNICAL SCHOOL - SITES 41	B-13	Ed	C, E, M, V		x			
86	GRADUATE COLLEGE TRAINING	B-18	Ed	C, E, M, V	x				End of Original Measures
87	SHARON COMMUNITY COLLEGE (SHENANGO VALLEY CAMPUS) - SITE 42	B-13	Ed	M			x		
88	STRIP MINE EVALUATION	D-8	Ag	M, V		x			
89	ROAD BANK STABILIZATION	D-8	Ag	C, E, M, V		x			

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					Planning	Operations	Completed	Canceled	
90	ESTABLISH LAND IMPROVEMENT CONTRACTORS' ASSOCIATION	E-7	Ag	C, E, M, V			x		
91	PROMOTE MINIMUM TILLAGE	E-7	Ag	C, E, M, V		x			
92	STREAM BANK STABILIZATION - OIL CREEK	D-7	Ru	C		x			
93	MARKETING OF POLE TIMBER	A-11	Wd	V	x				
94	FORESTRY EDUCATION AND INFORMATION PROGRAM	F-18	Wd	C, E, M, V	x				
95	AGRICULTURAL WASTE DISPOSAL	E-19	Ag	C, E, M, V		x			
96	PRESERVATION OF FLOOD PLAINS, NATURAL WATERWAYS AND HILLSIDES	E-8	Ru	V	x				
97	EDUCATIONAL ASSISTANCE TO FARMERS IN MAKING FARM DECISIONS	F-18	Ag	C, E, M, V		x			
98	NEW OPPORTUNITIES IN AGRICULTURAL ENTERPRISE	F-18	Ag	C, E, M, V		x			
99	AN EDUCATIONAL PROGRAM TO SHOW THE VALUE OF EFFICIENT FARM BUILDING	F-18	Ag	C, E, M, V		x			

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					Planning	Operations	Completed	Canceled	
100	AN EDUCATIONAL PROGRAM TO ENCOURAGE WIDE USE OF MODERN MANAGEMENT TOOLS TO IMPROVE FARM INCOME	F-18	Ag	C, E, M, V		x			
101	FORESTRY TECHNICIAN	F-1	Wd	C, E, M, V	x				
102	SEDIMENT CONTROL IN HARVEST CUTTING	E-7	Wd	C, E, M, V		x			
103	LAKE LATONKA - SITE 43	B-3	Wa	M			x		
104	OIL MILL RUN - SITE 44	C-6	Wa	M	x				
105	PRAIRIE RUN - EAST SANDY CREEK	C-6	Wa	V	x				
106	CONNEAUT LAKE - THATCHER RUN	C-6	Wa	C				x	
107	POLLUTION ABATEMENT - WOLF CREEK	D-19	En	M		x			
108	STUDY OF STRIP-MINE POOLS	B-8	Wa	M			x		
109	COUNTY STREAM MAP	B-6	Wa	V, C			x		
110	FRENCH CREEK WATERSHED ASSOCIATION	B-6	Wa	C, E, M, V		x			
111	WEST MEADE TOWNSHIP LAKE - SITE 45	B-13	Wa	C	x				

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Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
112	SHENANGO RIVER WATERSHED ASSOCIATION	B-6	Wa	M, C	x				
113	NESHANNOCK WATERSHED ASSOCIATION	B-6	Wa	M		x			
114	SLIPPERY ROCK WATERSHED ASSOCIATION	B-6	Wa	M, V		x			
115	NESHANNOCK CREEK	C-6	Wa	M	x				
116	HEMLOCK CREEK	B-19	Wa	V		x			
117	PINE RUN - SHARON	C-19	Wa	M	x				
118	PINE RUN IMPROVEMENT - NESHANNOCK	D-6	Wa	M	x				
119	SAUL-MATHAY STREAM IMPROVEMENT - SITE 46	C-6	Wa	M	x				
120	STREAM MONITORING	B-8	Wa	E		x			
121	MULTI-PURPOSE RESERVOIR EAST BRANCH LEBOEUF CREEK - SITE 47	C-6	Wa	E	x				
122	UNION CITY RECREATION RESERVOIR - SITE 48	C-6	Wa	E		x			
123	SIXMILE CREEK - RESERVOIR HARBORCREEK - SITE 49	C-6	Wa	E	x				

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					Planning	Operations	Completed	Canceled	
124	PINE CREEK STREAM IMPROVEMENT - TITUS-VILLE	C-4	Wa	C		x			
125	HORSE CREEK WATERSHED RESTORATION	D-19	Wa	V	x				
126	HALLS RUN	D-19	Wa	V	x				
127	STREAM SEDIMENT STUDY - CRAWFORD	D-8	Wa	C		x			
128	YELLOW CREEK RESTORATION	D-19	Wa	M	x				
129	TWOMILE RUN LAKE - SITE 50	C-5	Rec	V		x			
130	GREENVILLE PARK DEVELOPMENT - SITE 51	B-3	Rec	M	x				
131	OAK TREE GOLF COURSE - SITE 52	B-3	Rec	M			x		
132	FISH FOR FUN - NESAHNNOCK - SITE 53	C-3	Rec	C		x			
133	CAMBRIDGE PARK - SITE 54	B-13	Ed	C	x				
134	PALUMBO'S PAR 3 GOLF COURSE - SITE 55	B-3	Rec	M			x		
135	FARRELL TOT LOT - SITE 56	B-3	Rec	M			x		
136	LINDY'S RECREATION AREA - SITE 57	B-3	Rec	M		x			

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					Planning	Operations	Completed	Canceled	
137	FARMA CAMPGROUND - SITE 58	B-3	Rec	M			x		
138	NESHANNOCK RECREATION AREA - SITE 59	B-3	Rec	M		x			
139	TOUR MAP	B-9	Rec	C, V		x			
140	CRAWFORD PARK - SITE 60	B-3	Rec	C	x				
141	RECREATION POTENTIAL STUDY	E-8	Rec	C, E, M, V		x			
142	CARRIER'S CAMPGROUND - SITE 61	B-3	Rec	M	x				
143	CRANBERRY SWAMP - SITE 62	E-4	Rec	M		x			
144	TWOMILE RUN COUNTY PARK - SITE 50	E-3	Rec	V		x			
145	SCHOLLARDS RUN WETLAND - SITE 63	E-4	Ed	M		x			
146	JEFFERSON PARK - SITE 64	B-3	Rec	M		x			
147	HEMPFIELD TOWNSHIP PARK - SITE 65	B-3	Rec	M		x			
148	BRANDY SPRINGS PARK - SITE 66	B-3	Rec	M		x			
149	GUYASUTA BOY SCOUT CAMP - SITE 67	E-3	Ed	M		x			

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					Planning	Operations	Completed	Canceled	
150	CONNEAUTVILLE OUTDOOR LABORATORY-SITE 68	B-18	Ed	C		x			
151	MEADVILLE PARK DEVELOPMENT - SITE 69	B-3	Rec	C	x				
152	VERNON TOWNSHIP PARK DEVELOPMENT-SITE 70	B-3	Rec	C	x				
153	BURGESS PARK DEVELOPMENT - SITE 71	B-3	Rec	C		x			
154	CHURCH RUN PARK - SITE 72	B-3	Rec	C	x				
155	FAIRVIEW PARK - SITE 73	B-3	Rec	M	x				
156	BURNS CAMPGROUND	B-3	Rec	M				x	
157	DEVELOPING PEW HISTORICAL AREA-SITE 74	B-18	Rec	M	x				
158	SHARPSVILLE LITTLE LEAGUE COMPLEX - SITE 75	B-3	Rec	M			x		
159	OVERLOOK AT EMLENTON - SITE 76	B-9	Rec	V	x				
160	ESTABLISH SNOWMOBILE TRAILS ON MARGINAL OR IDLE LAND	B-3	Ag	E	x				
161	RECREATIONAL DEVELOPMENT OF MERCER COUNTY STREAMS	B-3	Rec	M	x				

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162	NATIONAL CHRISTMAS TREE - 1978	B-3	Wd	C, E, M, V				x	
163	ALLEGHENY CANOE COURSE	B-3	Rec	V		x			
164	PINE TOWNSHIP RECREATION AREA - SITE 77	B-3	Rec	M	x				
165	RURAL FIRE PROTECTION	B-13	En	C, M, V		x			
166	LATONKA HOMES - SITE 43	B-3	Ru	M		x			
167	THIEL COLLEGE BIOLOGICAL CENTER	B-8	Rec	M				x	
168	CRITICAL AREA PLANTING	D-7	En	E, M, V		x			
169	JAMESTOWN SEWAGE SYSTEM - SITE 78	B-16	En	M			x		
170	LINESVILLE SEWAGE SYSTEM - SITE 79	B-16	En	C			x		
171	PENN SOIL CONSERVATION EDUCATION CENTER SITE 80	B-18	Ed	M		x			
172	WOLF CREEK BEAUTIFICATION AND DEVELOP- MENT - SITE 81	E-17	Wa	M		x			
173	TOWNSHIP ACTION PROGRAM	B-3	Ag	C, M, V				x	

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/	Committee Sponsoring of Measure 2/	Applicable County 3/	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
174	COCHRANTON OUTDOOR LABORATORY - SITE 82	B-13	Ed	C	x				
175	JOHNSTON HISTORICAL TAVERN - SITE 83	B-18	Ed	M			x		
176	FREDONIA SEWAGE SYSTEM - SITE 84	B-16	En	M		x			
177	MERCER 4-H PARK - SITE 85	B-18	Ed	M		x			
178	GREEN THUMB PROGRAM	F-13	En	C, M, V		x			
179	CLINCH-TITE POLLUTION ABATEMENT-SITE 86	B-19	En	M			x		
180	LINESVILLE HOUSING - SITE 87	B-13	Ru	C		x			
181	IMPROVED LIBRARY FACILITIES	B-13	Ru	C, E, M, V		x			
182	SOLID WASTE DISPOSAL	B-13	En	C, E, M, V		x			
183	SEDIMENT CONTROL ORDINANCES	E-7	Ru	C, E, M, V	x				
184	FLOOD PLAIN ZONING	E-19	Ru	C, V, M		x			
185	MOSQUITO CONTROL STUDY	B-8	En	C, E, M, V	x				
186	HIGHWAY IMPROVEMENT - ROUTE 358	B-9	En	M	x				

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/ _____	Committee Sponsoring of Measure 2/ _____	Applicable County 3/ _____	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
187	SCRUBGRASS CREEK WATERSHED ASSOCIATION	B-6	Ru	V		x			
188	SHENANGO RIVER BEAUTIFICATION	B-17	En	M			x		
189	MERCER BOG - SITE 88	B-18	En	M	x				
190	PLANTING TREES FOR LANDSCAPE IMPROVE- MENT AND NOISE POLLUTION ABATEMENT	E-17	Ag	M	x				
191	CONSERVATION EDUCATION BROCHURE	B-18	Ed	E			x		
192	CONSERVATION INFORMATION CENTER-SITE89	B-18	En	M		x			
193	TITUSVILLE OUTDOOR LABORATORY - SITE 90	B-18	Ed	C		x			
194	RURAL FIRE PROTECTION - TOWNVILLE SITE 91	B-8	En	C	x				
195	MINI FOREST	E-7	En	M		x			
196	PROVIDE RURAL WATER AND SANITARY FACILI- TIES	B-16	En	C, E, M, V		x			
197	INSTALL POND SAFETY SIGNS AND EQUIPMENT	B-18	Rec	E		x			
198	INSTALL HYDRANTS IN FARM PONDS - ERIE CO.	E-13	Ag	E		x			

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/ 2	Committee Sponsoring of Measure 2/ 3	Applicable County 3/ 4	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
199	ESTABLISH DEMONSTRATION WOODLOTS ON SCHOOL DISTRICT PROPERTIES	B-18	Wd	E		x			
200	DISTRIBUTION OF TREE SEEDLINGS	E-7	Wd	E		x			
201	STREAM EROSION AND SEDIMENTATION STUDY IN THE LAKE ERIE BASIN	E-8	En	E	x				
202	LAGOONS FOR SEWAGE DISPOSAL	B-16	En	V	x				
203	PROMOTE OUTDOOR EDUCATION LABORATORIES - VENANGO COUNTY - SITES 92	B-18	Ed	V	x				
204	ESTABLISH CROWNVELTCH PLOT - SITE 50	E-7	En	V			x		
205	PROMOTE ENVIRONMENTAL UNDERSTANDING AND IMPROVEMENT	F-18	En	C, E, M, V		x			
206	AN EDUCATIONAL PROGRAM TO IMPROVE POLLUTION CONTROL METHODS	F-18	Ed	C, E, M, V		x			
207	PROMOTE AN EDUCATIONAL PROGRAM ON SAFETY	F-18	Ed	C, E, M, V		x			
208	AN EDUCATIONAL PROGRAM TO DEVELOP A BETTER RURAL-URBAN UNDERSTANDING	F-18	Ed	C, E, M, V		x			

STATUS OF PROJECT MEASURES

Revised Project Measure Number	Project Measure and Site Number	Project Classification Code 1/ 2	Committee Sponsoring of Measure 2/ 3	Applicable County 3/ 4	Current Status				Remarks
					Planning	Operations	Completed	Canceled	
209	TOPOGRAPHIC SURVEY	B-8	En	E	x				
210	GROVE CITY INTERCHANGE - SITE 93	B-8	En	M	x				
211	CAMPBELL'S HOUSING DEVELOPMENT - SITE 94	B-13	En	M	x				
212	PENN SOIL EROSION AND SEDIMENT HANDBOOK	E-19	Ru	C, E, M, V	x				

1/ Coding of Project Measures as to Type and Category for Reporting Purposes

2/

Ag	- Agricultural Committee
Wd	- Woodland Committee
Wa	- Water Committee
Rec	- Recreation Committee
Ru	- Rural-Urban Development Committee
Ed	- Education Committee
En	- Environmental Committee

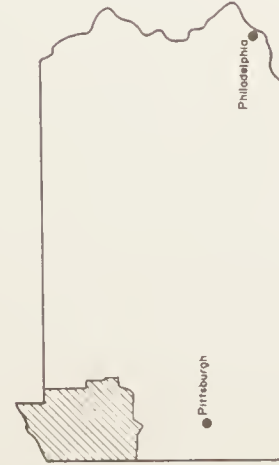
3/

C	- Crawford County
E	- Erie County
M	- Mercer County
V	- Venango County

PROJECT MEASURES MAP AND LEGEND

PROJECT MEASURE SITE LEGEND

- | | |
|--|--|
| 1. Saul-Mathay Watershed | 48. Union City Recreation Reservoir |
| 2. Mill Run Watershed | 49. Sixmile Creek Reservoir |
| 3. Wolf Creek Watershed | 50. Twomile Run Lake and County Park |
| 4. Little Shenango Watershed | 51. Greenville Community Park Development |
| 5. Oil Creek Watershed | 52. Oak Tree Golf Course |
| 6. Sandy Creek Watershed | 53. Neshannock Creek - Fish-for-Fun Project |
| 7. Union City Flood Control Project | 54. Cambridge Park |
| 8. Muddy Creek Flood Control Project | 55. Palumbo's Par 3 Golf Course |
| 9. Woodcock Flood Control Project | 56. Farrell Tot Lot |
| 10. Crooked Creek Waterfowl Development | 57. Lindy's Recreation Area |
| 11. New Wilmington Development | 58. Farma Campground |
| 12. Keystone Development | 59. Neshannock Recreation Area |
| 13. London Interchange Development on I-79 | 60. Crawford Park |
| 14. Lake-Side Housing Development | 61. Carrier's Campground |
| 15. Erie National Wildlife Refuge | 62. Cranberry Swamp |
| 16. Cussewago Lake | 63. Schollards Run Wetland |
| 17. Spartansburg Lake | 64. Jefferson Township Park |
| 18. Waterfowl Marsh Developments | 65. Hempfield Township Park |
| 19. Wildlife Marshes | 66. Brandy Springs Park |
| 20. Pymatuning State Park | 67. Guyasuta Boy Scout Camp |
| 21. Shenango River Reservoir, Recreational Area | 68. Conneautville Outdoor Laboratory |
| 22. Shopping Center Development | 69. Meadville Park Development |
| 23. Fort Franklin Restoration | 70. Vernon Township Park Development |
| 24. Oil City Motel | 71. Burgess Park Development |
| 25. Pine Grove Golf Course | 72. Church Run Park |
| 26. Loreno's Golf Course | 73. Fairview Township Park |
| 27. Maurice Goddard State Park | 74. Pew Historical Area Development |
| 28. Oil Creek Valley State Park | 75. Sharpsville Little League Complex |
| 29. Winter Sports Centers | 76. Overlook at Emlenton |
| 30. Colonel Hunter Shooting Preserve | 77. Pine Township Recreation Area |
| 31. Keystone Ordnance Industrial Park | 78. Jamestown Sewage System |
| 32. Seneca Industrial Park | 79. Linesville Sewage System |
| 33. I-80 Interchange Industrial Park Development | 80. Penn Soil Conservation Education Center |
| 34. Industrial Park Expansion | 81. Wolf Creek Beautification and Development |
| 35. Clintonville Municipal Water and Sewage | 82. Cochran Outdoor Laboratory |
| 36. Franklin Motor Lodge | 83. Johnston Historical Tavern |
| 37. Convention Facility | 84. Fredonia Sewage System |
| 38. Allegheny Gorge State Park | 85. Mercer 4-H Park |
| 39. French Creek Industrial Park Development | 86. Clinch-Tite Pollution Abatement |
| 40. Roadside Rests | 87. Linesville Housing Project |
| 41. Technical School Establishment | 88. Mercer Bog |
| 42. Penn State Center-Shenango Valley Campus | 89. Conservation Information Center |
| 43. Lake Latonka Development | 90. Titusville Outdoor Conservation Laboratory |
| 44. Oil Mill Run | 91. Townville Area Rural Fire Protection |
| 45. West Mead Township Lake | 92. Outdoor Laboratories in Venango County |
| 46. Saul-Mathay Stream Improvement | 93. Grove City Interchange on I-80 |
| 47. East Branch, LeBoeuf Creek Reservoir | 94. Campbell's Housing Development |



LEGEND

- 10 Completed Measure
- 21 Planned Measure



PROJECT MEASURE MAP
PENN SOIL RESOURCE CONSERVATION AND DEVELOPMENT PROJECT
CRAWFORD, ERIE, MERCER, AND VENANGO COUNTIES, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
79-405

SOIL CONSERVATION SERVICE

STATEMENT OF SPONSORSHIP

The project conducted will be in compliance with all requirements respecting nondiscrimination and contained in the Civil Rights Act of 1964 and the regulations of the Secretary of Agriculture (7 C. F. R. Sec. 15.1-15.13), which provide that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any activity receiving Federal financial assistance.

WITNESS THE SIGNATURES OF THE UNDERSIGNED SPONSORING ORGANIZATIONS:

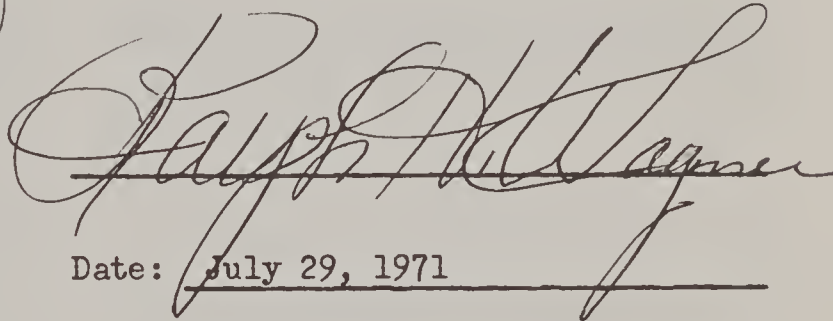
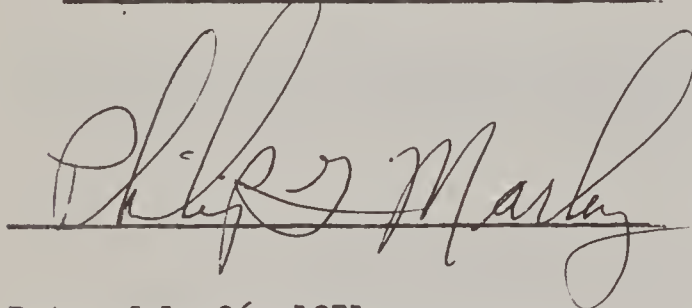
CRAWFORD COUNTY

Crawford County Soil and Water
Conservation District

County of Crawford

By: Philip G. Marley, Chairman

By: Ralph H. Wagner, Chairman



Date: July 26, 1971

Date: July 29, 1971

This action authorized at an official
meeting of the Crawford Soil and Water
Conservation District on

This action authorized at an official
meeting of the Crawford County Com-
missioners on

Date: July 26, 1971

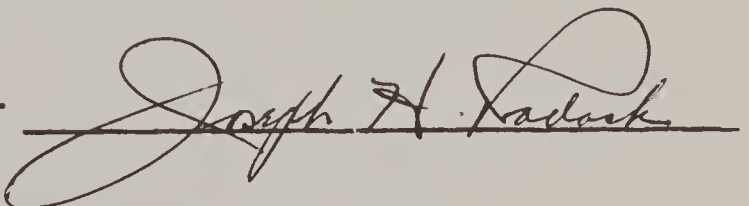
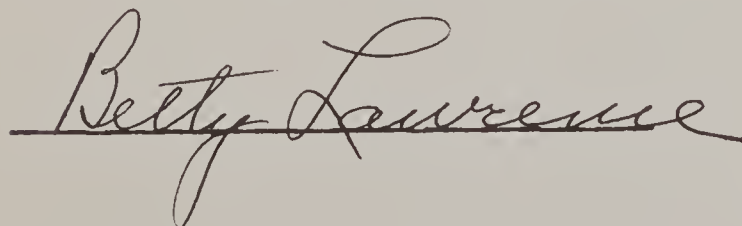
Date: July 29, 1971

at: Meadville, Pennsylvania

at: Meadville, Pennsylvania

Attest: Betty Lawrence, Secretary

Attest: Joseph H. Rodack^A, Chief Clerk



ERIE COUNTY

Erie County Soil and Water
Conservation District

County of Erie

By: James M. Hall, Jr., Chairman

By: Leo P. Weir, Chairman

James M. Hall Jr.

Date: July 15, 1971

Leo P. Weir

Date: July 15, 1971

This action authorized at an
official meeting of the Erie Soil
and Water Conservation District on

This action authorized at an official
meeting of the Erie County Commis-
sioners on

Date: July 15, 1971

Date: July 20, 1971

at: Erie, Pennsylvania

at: Erie, Pennsylvania

Attest: Robert E. Huston, Secretary

Attest: Alice M. Draegert, Chief Clerk

Robert E. Huston

Alice M. Draegert

MERCER COUNTY

Mercer County Soil and Water
Conservation District

By: David J. Woods, Chairman

County of Mercer

John G. Johnson
By: John G. Johnson, Chairman

David J. Woods

Date: August 2, 1971

Date: August 9, 1971

This action authorized at an official
meeting of the Mercer Soil and Water
Conservation District on

Date: August 2, 1971

at: Mercer, Pennsylvania

Attest: Fred J. Brenner, Secretary

This action authorized at an official
meeting of the Mercer County Com-
missioners on

Date: August 9, 1971

at: Mercer, Pennsylvania

Attest: Caroline Armstrong, Chief Clerk

Fred J. Brenner

Caroline Armstrong

VENANGO COUNTY

Venango County Soil and Water
Conservation District

By: Robert Sterrett, Chairman

Robert Sterrett

Date: July 21, 1971

This action authorized at an official
meeting of the Venango Soil and Water
Conservation District on

Date: July 21, 1971

at: Franklin, Pennsylvania.

Attest: Harry F. Fowler, Secretary

Harry F. Fowler

County of Venango

By: Joseph Levi, II, Chairman

Joseph Levi, II

Date: July 27, 1971

This action authorized at an official
meeting of the Venango County Commis-
sioners on

Date: July 27, 1971

at: Franklin, Pennsylvania

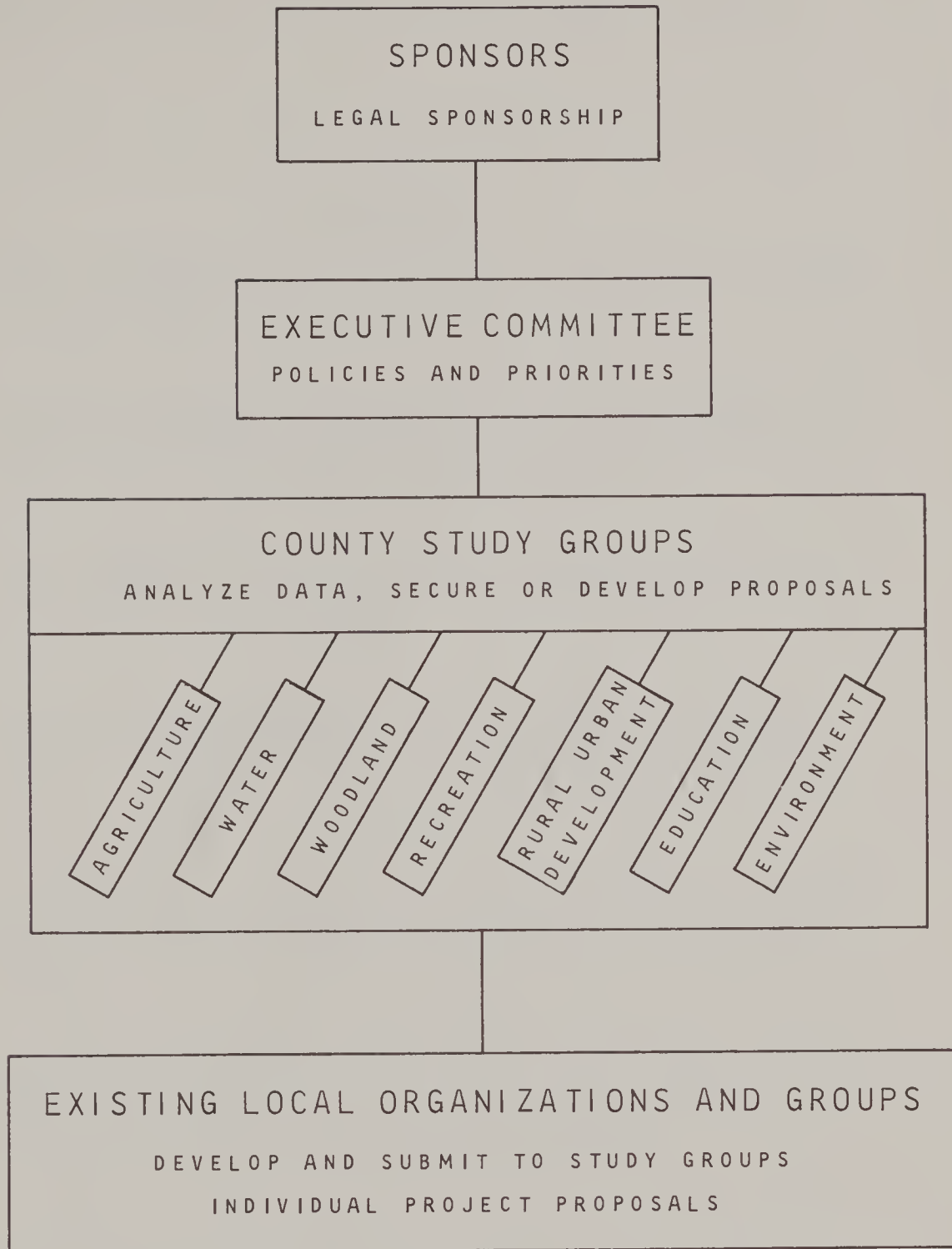
Attest: Paul W. Flinchbaugh, Chief Clerk

Paul W. Flinchbaugh

The above local organizations request that all correspondence or contacts
concerning this RC&D Project should be directed to:

David Woods
Chairman, Executive Committee
R. D. #1
Transfer, Pennsylvania 16154

PENN SOIL RC&D
ORGANIZATION CHART



SPONSORS: BOARDS OF COUNTY COMMISSIONERS AND SOIL AND
WATER CONSERVATION DISTRICTS IN EACH COUNTY-
4 COUNTIES (36)

EXECUTIVE COMMITTEE: TWO SPONSOR MEMBERS PLUS ONE
MEMBER AT LARGE FROM EACH COUNTY (12)

STUDY GROUPS: 10 INDIVIDUALS PER EACH STUDY GROUP PER
COUNTY (280)

APPENDIX I

Explanation of coding used to categorize and type measures for record keeping purposes on Status of Project Measures Table, page A-1.

TYPES OF MEASURES

<u>Code</u>	<u>Definition</u>
A	- <u>Associated Measures</u> : Facilities or enterprises necessary for the processing, marketing and utilization of the products from natural resources.
B	- <u>Supporting Measures</u> : Developments or enterprises compatible with project objectives and involving assistance that is primarily a responsibility of organizations outside the U. S. Department of Agriculture.
C	- <u>Structural Measures</u> : Structural measures ordinarily require community or group action for planning, construction, operation and maintenance, and always require group benefits for justification.
D	- <u>Critical Area Treatment</u> : Critical areas are gullies or seriously eroding lands which are sources of excessive runoff or sediment contributing to downstream damages or which, if untreated, would adversely affect planned structural works of improvement.
E	- <u>Land Treatment</u> : Needed land use adjustments and combinations of practices compatible with the needs and capabilities of the land and the objectives of the people involved.
F	- <u>Accelerated Services</u> : The technical assistance increase <u>above</u> going program rate for soil surveys, conservation planning and application, and for other accelerated services necessary to meet project objectives.

CATEGORY OF MEASURE

<u>Code</u>	<u>Definition</u>
1.	<u>Accelerated services</u> include such measures as accelerated soil surveys, conservation planning assistance, forestry management assistance, REAP cost sharing, special studies, groundwater investigations, and similar services over and above the going program.
2.	<u>Agricultural water management developments</u> include irrigation and other drainage improvements of a group or community nature and not individual farm systems.
3.	<u>Recreation developments</u> include outdoor land or water based developments of public agencies plus large individual privately owned developments that are classified as single project measures.
4.	<u>Wildlife developments</u> - see 3 above.
5.	<u>Watershed projects</u> refer to the project as a whole and not to individual components or structure.
6.	<u>Water developments</u> - usually multipurpose impoundments, hydrologic units, or other developments having public benefits.
7.	<u>Land stabilization</u> and <u>critical areas</u> include measures such as roadbank stabilization, strip mine areas, etc.
8.	<u>Special resource studies and inventories</u> lead to opportunities for resource development or utilization.
9.	<u>Highways, roads, trails, scenic highways.</u>
10.	<u>Range improvement groups and associations.</u>
11.	<u>Agricultural and wood-using processing and marketing industries.</u>
12.	<u>Other industries established</u> are those that provide employment and are related to the action of sponsors.
13.	<u>Public service facilities</u> (hospitals, schools, sewage systems, etc.)
14.	<u>Industrial parks and other development centers.</u>
15.	<u>Rural water lines.</u>

16. Rural sewer systems.
17. Beautification measures are those primarily to enhance natural beauty.
18. Educational measures include training , retraining, and similar activities.
19. Other - Pollution abatement and improvement of the quality of the environment.

ACKNOWLEDGMENTS

The Sponsors gratefully acknowledge the assistance, encouragement and endorsement provided by representatives of the following agencies in the development of this project plan.

The United States Department of Agriculture

Agricultural Stabilization and Conservation Service
Cooperative Extension Service
Farmers Home Administration
Forest Service
Soil Conservation Service

The Pennsylvania Department of Environmental Resources and

The State Soil and Water Conservation Commission

The Pennsylvania Fish Commission

The Pennsylvania Game Commission

The Pennsylvania Department of Transportation

The Crawford County Planning Commission

The Erie Metropolitan Planning Commission

The Mercer County Planning Commission

The Venango County Planning Commission

GLOSSARY

This is a standard Glossary for use in defining technical terms used in making soil interpretations. It may list terms not used in the text.

AASHO SYSTEM. A system for classifying the engineering properties of soils used by the American Association of State Highway Officials.

AERATION, SOIL. The process by which air and other gases in the soil are renewed.

AGGREGATE, SOIL. A single mass or cluster consisting of many primary (sand, silt, clay) soil particles. Also called a ped.

ALLUVIAL MATERIAL. Material such as gravel, sand, silt or clay deposited by a flowing stream of water.

ASSOCIATION, SOIL. A group defined and named soil units that occur together in a particular geographic pattern. The soils may be derived from the same kind of parent material or different kinds of parent material.

AVAILABLE MOISTURE CAPACITY. The ability of a soil to hold water that will not drain away but that can be used for plant growth.

BEARING STRENGTH. This is the load supporting capacity of a soil. This strength can vary for a specific soil, depending on the amount of compaction and the moisture content.

BEDROCK, DEPTH.

- (a) Shallow: Less than 20 inches to solid bedrock.
- (b) Moderately deep: 20 to 40 inches to solid bedrock.
- (c) Deep: 40 inches or more to solid bedrock.

CALCAREOUS. Containing calcium carbonate or lime.

CAPABILITY CLASS. The capability classification places all soils in eight classes. The risk of soil damage or limitation in use become progressively greater from Class I to Class VIII.

CLASS I - Soils that have few limitations which restrict their use.

CLASS II - Soils that have some limitations which reduce the choice of plants or require moderate conservation practices.

CLASS III - Soils that have severe limitations which reduce the choice of plants, require special conservation practices, or both.

CLASS IV - Soils that have very severe limitations which restrict the choice of plants, require careful management, or both.

CLASS V - Soils that have little or no erosion hazard but have other limitations which are impractical to remove and limit their use largely to pasture, woodland, or wildlife food and cover.

- CLASS VI - Soils that have severe limitations which make them generally unsuited to cultivation and limit their use largely to pasture, woodland, or wildlife food and cover.
- CLASS VII - Soils that have very severe limitations which make them unsuited to cultivation and restrict their use largely to grazing, woodland, or wildlife.
- CLASS VIII - Soils and land forms that have limitations which prevent their use for commercial plant production and restrict their use to recreation, wildlife, water supply and aesthetic purposes.
- CHANNERY. A soil containing thin, flat pieces of sandstone, limestone, or schist from 2mm to 6 inches long.
- CLAY.
- (a) Fine earth portion of the soil having a diameter of less than .002 mm.
 - (b) As a soil textural class, soil material that contains 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- CLAYPAN. A compact, layer rich in clay, occurring in the subsoil and separated abruptly from the overlying soil layer. Usually has slow or moderately slow permeability.
- COBBLESTONE. A rounded or partly rounded piece of rock, 3 to 10 inches in diameter.
- COBBLY. Containing between 15 and 50 percent rounded or partially rounded fragments of rock ranging from 3 to 10 inches in diameter.
- COLLUVIAL MATERIAL. Material that has been moved downhill by gravity, soil creep, frost action, or local wash. It accumulates on the lower slopes and at the base of slopes.
- COMPLEX, SOIL. A group of different soil bodies so intimately associated that they cannot be separately indicated on the mapping scale being used.
- CORROSION POTENTIAL. A rating based on the drainage, conductivity and acidity of the soil which indicates how rapidly metal pipes or other objects buried in the ground will corrode.
- DRAINAGE, SOIL. The following classes are used to express soil drainage:
- Well drained - excess water drains away rapidly and no mottling occurs within 36 inches of the surface.
 - Moderately well drained - water is removed from the soil somewhat slowly, resulting in small but significant periods of wetness. Mottling occurs between 18 and 36 inches.

Somewhat poorly drained - water is removed from the soil slowly enough to keep it wet for significant periods but not all of the time.

Mottling occurs between 8 and 18 inches.

Poorly drained - water is removed so slowly that the soil is wet for a large part of the time. Mottling occurs between 0 and 8 inches.

Very poorly drained - water is removed so slowly that the water table remains at or near the surface for the greater part of the time.

There may also be periods of surface ponding. The soil has a black to gray surface layer with mottles up to the surface.

EROSION, ACCELERATED WATER. Erosion of the soil or rock over and above normal erosion, brought about by changes in the natural cover or ground conditions, including changes caused by human activity and those caused by lightning or rodents. There are several kinds of accelerated erosion. They are:

- (a) Sheet erosion or removal of a more or less uniform layer of material from the land surface. The effects are less conspicuous than those of other types of erosion that produce large channels. Frequently, in sheet erosion, the eroding surface consists of numerous very small rills.
- (b) Rill erosion, or erosion by water which produces small channels that can be obliterated by tillage.
- (c) Gully erosion or erosion by water that produces channels larger than rills. Ordinarily, these channels carry water only during and immediately after rains or following the melting of snow. Gullies are deeper than rills and are not obliterated by normal tillage.

EROSION, CLASSES.

- (a) Slight (Class 1). Up to 25 percent of the original surface soil removed.
- (b) Moderate (Class 2). Approximately 25-75 percent of the original surface soil removed.
- (c) Severe (Class 3). All of the original surface soil and part of the subsoil layers removed.

EROSION, GEOLOGICAL. The wearing away of the solid material of the land surface by wind, water, or ice and such processes as landslides and creep.

EROSION, WIND. Removal and loss of soil particles by wind.

FLAGGY. Soils that contain relatively thin fragments 6 to 15 inches long, of sandstone, limestone, slate, shale or schist. A single piece is a flagstone.

FLOODING. Water overtopping the natural banks of a creek, stream or river. The following terms describe the frequency of flooding:

- (a) None. Never flooded.
- (b) Seldom. Stream overflow is rare but probable during a very small percentage of the year.
- (c) Occasional. Stream overflow is estimated to be once in three or more years.
- (d) Frequent. Stream overflow is estimated at one to three years.

FLOOD PLAIN. A nearly level area bordering streams that is subject to overflow.

FRAGIPAN. A dense, brittle, slowly or moderately slowly permeable subsurface layer which occurs 15 to 40 inches below the surface and may vary in thickness from a few inches to several feet.

FROST ACTION. The heaving of the soil upon freezing caused by the formation of ice lenses in the soil.

- (a) High. - Soils having a seasonal high water table between one-half and three feet of the surface and silty textures.
- (b) Moderate. - Soils that are somewhat poorly, moderately and well drained and have silty textures.
- (c) Low. - Soils having a seasonal high water table deeper than three feet from the surface and are either coarse or fine textured.

GLACIAL DRIFT. Materials such as rock, stone, gravel, sand, silt and clay moved and redeposited by ice or water from glaciers.

GLACIAL TILL. That part of the glacial material deposited directly by the ice with little or no transportation by water.

GRAVEL. Rounded stones up to three inches in diameter rounded by water action.

GROUND WATER TABLE. The upper limit of the part of the soil or underlying rock material that is wholly saturated with water.

HIGH WATER TABLE. A zone of saturation in the soil which is within 8 inches of the surface in most seasons. May be caused by a normal ground water table or a perched water table. High water table is indicated by mottling within 8 inches of the soil surface. Usually associated with poorly drained and very poorly drained soils.

INFILTRATION. The downward entrance of water into the soil surface.

LEACHED LAYER. A layer in which soluble constituents have been dissolved and removed by the passage of water through the soil.

LIQUID LIMIT. The moisture content at which a soil passes from a plastic to a liquid or fluid state.

LOAM. A soil having a relatively even mixture of sand, silt and clay. It has a somewhat gritty feel, yet fairly smooth and slightly plastic when moist.

MAPPING UNIT. It is composed of a soil having defined properties. Also included are small areas of other soils that cannot be separated because of the limits imposed by the scale of mapping. A unit may have up to 15 percent inclusions of contrasting soils.

MAXIMUM DRY DENSITY. The weight of dry soil material per one cubic foot when compacted at optimum moisture content.

MOTTLING, SOIL. Contrasting gray, red, yellow or brown color patches occurring in the soil profile, usually resulting from varying degrees of wetness.

OPTIMUM MOISTURE FOR COMPACTION. The soil moisture content in percent at which greatest compaction is obtained.

PARENT MATERIAL. The rock or other geological materials from which a soil is formed.

PERCHED WATER TABLE. A water table that is separated from the ground water table by an unsaturated layer. A perched water table occurs at a higher elevation than the normal ground water table.

PERMEABILITY. The rate at which water will move through a saturated soil.

- (a) Slow - Less than 0.20 inches per hour.
- (b) Moderately slow - 0.20 to 0.63 inches per hour.
- (c) Moderate - 0.63 to 2.0 inches per hour.
- (d) Moderately rapid - 2.0 to 6.3 inches per hour.
- (e) Rapid - More than 6.3 inches per hour.

PLASTIC LIMIT. The moisture content at which a soil changes from a semi-solid to a plastic state.

PLASTICITY INDEX. The numerical difference between liquid limit and plastic limit.

PONDING. The impounding of water on the surface of the ground.

PROFILE, SOIL. A vertical section of the soil from the surface to the parent material showing various soil layers.

ROAD FILL. Those materials, soil and rock, used for constructing roads.

ROAD FILL SUITABILITY. A rating of the soil as a source of road fill material based largely upon the texture and bearing capacity of the soil.

- (a) Poor. Usually clayey soils that have low bearing capacity when wet, are difficult to work, slow to dry and hard to compact. These are rated as A-5, A-6 and A-7 by the AASHO System and OL, MH, CH, OH, and Pt. by the Unified System.

- (b) Fair. Loamy soils of medium bearing capacity. Soils rated A-3 or A-4 by the AASHO System and ML, SM or GM by the Unified System.
- (c) Good. Gravelly and sandy soils of high bearing capacity. Soils rated A-1 or A-2 in the AASHO System and GW-GM and SW-SM in the Unified System.

ROCKINESS. The presence of bedrock exposures within a soil area.

ROCK LEDGES OR OUTCROPS. Solid bedrock exposed at the surface.

RUNOFF. That portion of the rainfall which does not enter the soil but runs off the surface.

SAND.

- (a) Individual rock or mineral fragments having diameters ranging from 0.05 millimeters to 2.0 millimeters. Sand grains consist chiefly of quartz but they may be of any mineral composition.
- (b) As a soil textural class, soil that is 85 percent or more sand and not more than 10 percent clay. Common sand textures are very coarse, coarse, medium fine and very fine.

SEASONAL HIGH WATER TABLE. A zone of saturation in the soil which is within 8 to 36 inches of the soil surface during at least part of the year. Seasonal high water table is usually caused by a fluctuating water table generally not associated with the ground water table. Usually associated with somewhat poorly drained and moderately well drained soils.

SHALE. A sedimentary rock formed by the consolidation of silt and clay; has a finely stratified structure parallel to the bedding.

SHRINK-SWELL POTENTIAL. The difference between the volume of a wet soil as compared to a dry soil.

- (a) Low. Sandy loam, loam or silt loam textured soils.
- (b) Moderate. Silty clay loam, clay loam or sandy clay loam textured soils.
- (c) High. Some clay and silty clay textured soils.

SIEVE ANALYSIS. A method of determining soil particle sizes and texture by mechanically passing the soil through different sized sieves.

SILT.

- (a) Individual mineral particles of soil that range in diameter from 0.002 millimeters to 0.05 millimeters.
- (b) As a textural class, soil that is 80 percent or more silt and less than 12 percent clay.

SLOPE. The rise or fall of the land usually measured in feet per hundred or percent.

- (a) Level or nearly level, 0-3 percent - Class A
- (b) Gently sloping, 3-8 percent - Class B
- (c) Sloping, 8-15 percent - Class C
- (d) Moderately steep, 15-25 percent - Class D
- (e) Steep, 25-35 percent - Class E
- (f) Very steep, 35 percent plus - Class F

SOIL SERIES. A group of soils having similar kinds, thickness and arrangements of soil layers. The colors, textures, reaction and chemical composition are also very similar.

STONINESS. Rock fragments larger than 10 inches in diameter.

STRUCTURE, SOIL. The aggregation of soil particles into clumps, peds, or clusters of primary particles.

SUBSOIL. Technically, the "B" horizon of a soil with a distinct profile; commonly that part of the soil profile lying below the surface layer.

SURFACE SOIL. The first layer of soil technically referred to as the "A" horizon.

TERRACE (STREAM). Land forms lying just above the flood plains where they are generally not subject to overflow. Terraces occur as benches along the streams and rivers.

TEXTURE. The composition or make-up of soil on the basis of the percent of the different soil particles. Common textures are clay, silt, loam, sand and the various combinations of these such as sandy loam, silty loam, sandy clay loam, clay loam, silty clay loam, sandy clay and silty clay.

TOPSOIL. Usually a dark colored soil or soil material used to top-dress road banks, parks, gardens, or lawns.

UNIFIED SYSTEM. A system for classifying the engineering properties of soils developed and used by the U. S. Army Corps of Engineers.

WATER HOLDING CAPACITY. The ability or capacity of a soil to hold water.

WEATHERING. The physical and chemical disintegration and decomposition of rocks and minerals.

